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BASICS
TRIP REPORT

Health Facility Survey on Diarrhea Case Management in the Regions of Fatick, Koalack, Louga, and Ziguinchor

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Academy for Educational Development (AED)
John Snow, Inc., (JSI)
Management Sciences for Health (MSH)
1600 Wilson Blvd., Suite 300, Arlington, VA, 22209

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Health Facility Survey on Diarrhea Case Management in the Regions of Fatick, Kaolack, Louga, and Ziguinchor

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Dr. Serge Manoncourt
Dr. Bernard Diop

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ACRONYMS

ARI:	Acute Respiratory Infections
BASICS:	Basic Support for Institutionalizing Child Survival
CADU:	Cheikh Anta Diop University
CDC:	Centers for Disease Control (Atlanta, Georgia)
CDD:	Control of Diarrheal Diseases
CI:	Confidence Interval
EPIINFO:	Statistical Analysis Computer Program
HC:	Health Center
HE	Health Education
HP:	Health Post
HPNO:	Health, Population and Nutrition Office
HUC:	Hospital-University Center
HW	Health Worker
MEFP:	Ministry of Economics, Finance and Planning
MIS:	Management Information System
MPHAS:	Ministry of Public Health and Social Affairs
MSH:	Management Sciences for Health
NP:	National Pharmacy
NRC:	Nutrition Rehabilitation Corner
ORS:	Oral Rehydration Salts
ORT:	Oral Rehydration Therapy
ORU:	Oral Rehydration Unit
PCD:	Private Catholic Dispensary
PHC:	Primary Health Care
PHD:	Public Health Directorate
PRITECH:	Technologies for Primary Health Care
ROFN:	Regional Offices of Food and Nutrition
RR:	Relative Risk
SANAS:	Food and Applied Nutrition Service in Senegal
SSS:	Sugar/salt solution
UGP:	Project Management Unit
UNICEF:	United Nations Children's Fund
USAID:	United States Agency for International Development
WHO:	World Health Organization

EXECUTIVE SUMMARY

A health-facility based survey on diarrhea case management of children under five years of age was undertaken from 5-16 September 1994, in the USAID-supported regions of Fatick, Kaolack, Louga and Ziguinchor. It was carried out jointly by the Food and Applied Nutrition Service (SANAS) of the Ministry of Health and Social Affairs and BASICS/USAID. The objective of the survey was to evaluate the quality of diarrhea case management in children by health workers in health facilities. The study thus provided a means of measuring progress made in the Senegalese national program of control of diarrheal diseases.

The survey sample included hospitals treating diarrhea, all health centers in the 4 regions and a random selection of 10 health posts per region, not including those determined to be non-functional. The sample of 61 health facilities thus consisted of 2 hospitals, 18 health centers and 41 health posts.

After one week of training, the 12 surveyors and four supervisors divided into two groups and visited each of the selected establishments and collected data using 5 methods: 1) observation of health workers managing all children presenting with diarrhea at a health facility; 2) clinical examination of the children and interviews with the mothers or caretakers; 3) interviews with the health personnel; 4) assessment of the facilities and equipment; and 5) review of clinical records. Initial data analysis was done manually by the supervisors and one-half of the surveyors using tally sheets. Simultaneously, the data were entered into the computer and analyzed for the final report using the program EpiInfo.

The total numbers included 244 children observed, 223 mothers or caretakers interviewed, 86 health workers interviewed, 61 health facilities visited and 1168 cases of diarrhea identified in clinical records.

The survey has demonstrated some encouraging results; for example, there is 83 percent agreement between the clinical examinations by health workers and surveyors concerning the degree of dehydration. In 84 percent of observed cases, ORS or home solutions are prescribed and in 80 percent of cases, instructions or advice are given to the mother by the health workers.

Nonetheless the quality of diarrhea case management in children is low, if one considers the key indicators: only 5 percent of cases are managed correctly (WHO/UNICEF definitions), 36 percent are evaluated correctly, 21 percent are correctly rehydrated, 14 percent receive appropriate advice, and 40 percent of cases of dysentery receive appropriate antibiotics.

In the case of moderate or severe dehydration (n=33), there is a 42 percent agreement between surveyors and health workers concerning the choice of treatment and 21 percent of children are rehydrated correctly.

One-third of mothers or caretakers know the three rules for home management and three-fourths know how to prepare ORS or home solutions.

According to the criteria defined by SANAS, one-third of the health workers have been trained in diarrhea case management. Health worker knowledge is insufficient in all the steps of case management; 22 percent know how to correctly evaluate a child with diarrhea, 21 percent know the correct quantities of liquid (ORS or IV) to give for dehydration, and 15 percent know the three rules for advising mothers of children without dehydration.

In our sample, only 13 percent of health workers had been supervised within the last three months. Furthermore, supervision pays little attention to CDD, due to lack of supervisors' training , meaning that supervisors do not know what to evaluate during their visits.

The availability of ORS is deficient; 62 percent of health facilities visited had ORS in stock the day of the survey and 48 percent had had no stock-out within the previous three months. Furthermore, only 25 percent of hospitals and health centers had functional oral rehydration units.

Clinical records for diarrhea are often insufficient, especially for hospitalized cases. The information collected is not analyzed or acted upon by the establishments.

Given these results, the team of surveyors and supervisors has made a number of recommendations aimed at improving the performance of the CDD program. The principal ones are as follows:

- Improve training by creating teams of regional trainers and adhering to the criteria elaborated by SANAS. Training should particularly address health worker weaknesses identified in the survey; assessment of the presence of blood, complete clinical examination (six signs), appropriate use of antibiotics and medicines, advice to mothers on oral rehydration, quantities of liquids to administer in the case of dehydration and clinical practice (treatment of children with diarrhea) during the training.

- Regular follow-up of trainees should be systematic to ensure that acquired knowledge is used in practice. This will require the planning of regular supervisory visits, feasible within the logistic constraints. Short-term training of supervisors is necessary so that they know the tasks that need to be accomplished. Use of a "check-list" would undoubtedly improve the quality of supervision.

- Improve the management and distribution of ORS packets. At the regional level, the chief medical officers need to be particularly alerted to this aspect of the program.

- Revitalize the oral rehydration units by providing equipment when needed and especially by demonstrating functional, effective ORU's. This is a priority for hospitals and health centers.

- Revise health education messages on diarrhea and strengthen the system of collection and use of data on diarrhea.

- Develop a data base of causative microorganisms for dysentery from one or two sentinel

laboratories. This would permit the monitoring of the evolution of bacterial prevalence and antibiotic sensitivity thus allowing the adaptation of national recommendations as antibiotic resistance develops.

Finally, the data and information from this survey should be used in the short- and long-run by all people who are involved in the control of diarrheal disease program in Senegal.

1. INTRODUCTION - JUSTIFICATION

The Republic of Senegal covers an area of 196,722 square kilometers and has a total population of 8,127,374 inhabitants, of which 19.1 percent are under five years of age.[1] Senegal is divided into ten administrative regions which in turn are divided into health districts. (Appendix 1)

The health system is comprised of governmental establishments which include national and regional hospitals, health centers in the districts, and health posts in the communes and rural communities. At the village level, health huts are run by birth attendants and community health workers. Supplementary to the public system are private catholic dispensaries (PCD) which are integrated into the national policy of the Ministry of Health and Social Affairs.

The infant and under-five mortality rates are estimated respectively to be 68 and 131 per 1000 live births.[2] It is also estimated that diarrheal diseases account for 25 percent of the mortality and 40 percent of the morbidity of the under-five age group.

The national control of diarrheal diseases (CDD) program was launched throughout the country in the last quarter of 1986. It is run by the Service of Food and Applied Nutrition in Senegal (SANAS). The objectives of the program are to reduce mortality and morbidity caused by diarrhea in children under five. The strategies consist of 1) increase in the availability and use of oral rehydration packets (ORS), 2) promotion of prevention of dehydration in the home through use of a home solution (Salt/sugar solution-SSS), 3) increase in the number of oral rehydration units in health facilities, 4) appropriate use of medications for diarrhea, and 5) training and refresher training of health workers managing diarrhea cases at all levels of the health pyramid.[3]

The national CDD program received assistance from PRITECH initially in 1986 and then from 1991 to September 1993, at which time the BASICS project assured continuing USAID support. International assistance has included the purchase of ORS packets and other donor partners include WHO and UNICEF. Studies and evaluations undertaken from 1988 to 1990[4], have identified key problems of the program. These include the following 1) lack of coordination and supervision of the program at the central level and in certain regions, and 2) the necessity of defining or reexamining the

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1 Population estimate projected from the 1988 census. République du Sénégal. Recensement Général de la Population et de l'Habitat de 1988. Dakar: MEFP/Direction de la Prévision et de la Statistique, septembre 1992.

2 République du Sénégal. Enquête Démographique et de Santé au Sénégal (EDS-II) 1992/93. Dakar. MEFP/Direction de la Prévision et de la Statistique/MACRO International Inc., April 1994.

3 République du Sénégal. Programme National de Lutte Contre les Maladies Diarrhéiques. Plan d'Action 1990-1995. Dakar: MSPAS/Direction de la Santé Publique/SANAS, août 1990.

4 Coulibaly, M. et Diop, B. Etude de la Prise en Charge des Cas dans les Structures de Santé au Sénégal., Dakar: MSPAS/SANAS/PRITECH, février 1989. Etude CAP, 1989.

policy concerning the availability and use of ORS and SSS.

USAID has assisted the CDD program in the regions of Fatick, Kaolack, and Louga since 1991, and Ziguinchor since 1993. For this reason, BASICS and SANAS decided that this survey on diarrhea case management would be limited to these four regions. The goal of this survey is to evaluate the progress achieved in the CDD program. The data will provide a baseline for future evaluations and will be used to guide revisions of the program.

2. GENERAL OBJECTIVES

a Measure the quality of diarrhea case management of children under five in health facilities (hospitals, health centers, and health posts).

b. Identify and describe the problems and obstacles to correct diarrhea case management.

c. Determine the CDD indicators specific to diarrhea case management in health facilities.

d. Determine the level of knowledge of mothers and caretakers concerning correct case management of children with diarrhea seen in health facilities.

e. Use the results of the survey to reinforce the activities of the national CDD program and to guide the modification of certain strategies

f. Compare the quality of diarrhea case management by health workers trained in "diarrhea case management in children" versus those without training.

g. Compare the quality of case management in hospitals and health centers versus health posts.

3. SURVEY TIMETABLE

22/8 - 28/8/94:	Survey planning Preparation of surveyor training
29/8 - 3/9:	Training of surveyors and supervisors
4/9:	Trips to Dakar-Ziguinchor, Dakar-Louga
5/9 - 9/9:	Data collection in the regions of Ziguinchor and Louga
10/9:	Trips to Ziguinchor-Kaolack, Louga-Kaolack

11/9:	Data transfer to Tally Sheets 1 and 2 Meeting of the two surveyor groups
12/9 - 16/9:	Data collection in the regions of Fatick and Kaolack
17/9:	Completion of tally sheets 1 and 2 Return to Dakar
18/9:	Data verification and organization
19/9 - 23/9:	Group manual analysis of data, conclusions, and recommendations
24/9 - 29/9:	Data entry using EpiInfo, further analysis, preliminary report, and preparation of the presentation
30/9:	Presentation of preliminary results and recommendations

4. METHODS

The methodology used for the survey follows the procedures described in the revised version of WHO's "Health Facility Survey Manual: Diarrhoea Case Management, July 1994". The type of study is a descriptive, cross-sectional survey.

4.1 Geographical zone of the survey

Data collection took place from 5-16 September 1994, during the rainy season that extends from June to October. This is the peak season for diarrhea cases in the four regions that are assisted by USAID (Fatick, Kaolack, Louga, and Ziguinchor).

A comparison of key characteristics of the four regions is presented in the following table:

Table 1

Characteristics of the Regions of Fatick, Kaolack, Louga and Ziguinchor, Senegal, 1994

Characteristics	FATICK	KAOLACK	LOUGA	ZIGUINCHOR
Population (1994) *	568 688	947 870	525 467	466 831
Number of districts	5	4.	5	3
Health facilities Total number	67	71	60	54
Regional Hospitals	0	1	1	1
Health Centers	6	4	5	3
Functional Health Posts	58	59	53	43
Private Catholic Dispensaries (PCD)	3	7	1	7

* Source of population estimates: national census 1988, MEFP/Direction de la Prévision et de la Statistique, Dakar, septembre 1992.

All the districts of the four regions are accessible during the rainy season; they were all included in the sample.

4.2. Selection of health facilities

Each of the four regions is considered to be a stratum. All children less than 60 months of age, presenting with diarrhea the day of the survey at a selected health facility are included. All of the children seen at one health facility constitute a cluster.

4.2.1 Selection of hospitals and health centers

All regional hospitals having a diarrhea case management service and all health centers are included among the selected facilities. There is thus no sampling but rather exhaustive inclusion of facilities at this level.

The regions of Kaolack and Louga each have one regional hospital, Fatick does not. The regional hospital in Ziguinchor does not treat diarrhea cases and was thus excluded. The total number of facilities included in the survey for the four regions and 17 districts was two hospitals and 18 health centers (the health district of Fatick has two health centers).

4.2.2 Selection of health posts

During the preparatory phase of the survey, data were not available to estimate the daily number of diarrhea cases expected at each health post. The Senegalese MIS is set up so that data from health post monthly reports are aggregated at the health district level. Attempts to get the information directly from the health posts were not successful. For this reason, the decision was made to take a simple random selection of 10 health posts per region for a total of 40. Added to the 20 facilities in the category hospital/HC, this resulted in a theoretical total of 60 health facilities for the sample. The precision resulting from this sample is a function of the number of cases seen per facility and varies from ± 10 percent to ± 7 percent for an average number of cases/facility of 2 to 10 children. A mean of four observed cases per facility gives a precision of ± 8 percent. (Source: WHO survey manual)

Catholic dispensaries are included in the list of functional health posts because, although private, they are integrated into the national health system and provide the same type of services as health posts. An initial random sample of 10 health posts per region was done from a list of 231 functional health posts, with 5 additional posts per region being selected as replacements (Reasons for replacement included HP closed the day of the survey, absence of person in charge, etc.)

4.2.3 Selection of cases in health facilities

All children under five years of age with diarrhea presenting at a facility for consultation the day of the survey were included. When diarrhea was an accompanying symptom of another infectious disease, the surveyor only selected the child if there had been a minimum of three liquid stools on the day before or day of the survey.

Children to include were identified by surveyors among patients waiting to be seen by a standard method to minimize selection bias. The surveyor asked, "What is the reason you have brought your child?" If the answer was "diarrhea or dysentery", the child was automatically selected. For other responses, the surveyor asked the caretaker if the child had diarrhea. If the answer was "yes" the surveyor then asked the mother if there had been at least three liquid stools.

About 10 percent of children, originally identified as having diarrhea, were not retained for the study during the observation of the health worker by the surveyor. This happened when the assessment revealed that the child did not have diarrhea. This phenomenon is attributed to the fact that some caretakers may have enrolled their children in the study, hoping that they would receive preferential treatment on the part of the surveyors.

All children with diarrhea presenting at a facility were included up to the end of the morning consultations, which usually ended between noon and 3:00 PM. The rare child coming for an afternoon consultation (towards 5:00 PM) were not included.

4.2.4 Selection of mothers/caretakers to be interviewed

All mothers or caretakers of observed children were selected for a confidential interview on their knowledge concerning diarrhea. In the case of a mother accompanying two children, she was only interviewed once.

In health facilities where no cases of diarrhea were seen, the surveyors interviewed mothers or caretakers of children less than five years old presenting with problems other than diarrhea.

4.3 The data collection instruments

Five questionnaires were used for data collection. (Appendix 3)

- Form 1: Management of a child with diarrhea.
- Form 2: Examination of a child with diarrhea and interview with caretaker.
- Form 3: Interview with health personnel.
- Form 4: Assessment of facilities and supplies.
- Form 5: Review of clinical records.

All of the questionnaires were revised many times during the weeks of planning and surveyor training to ensure coherence with the CDD policy in place in Senegal. Some adaptations were made on the request of SANAS, particularly regarding the distinction of treatment between bacillary and amebic dysentery and the distinction between ORS and home solution as defined in Senegal (SSS).

The final modifications of the questionnaires were made during training, after pre-testing in three health centers in Dakar.

4.4 Training of surveyors and supervisors

Twelve surveyors plus two replacements and four supervisors were trained during six days in the offices of BASICS in Dakar. The 12 surveyors were all supervisors from the regional or health district levels. Two of the replacement surveyors came from the office of SANAS in Dakar. Among the four supervisors, two were national CDD supervisors and two were consultants. All were selected by SANAS in collaboration with BASICS/Senegal.

The training followed the suggested procedures of the WHO manual with theoretical presentations, exercises, role playing and clinical practice in health centers in Dakar. The training was directed by Dr. Jane Lucas, who had collaborated with WHO in the preparation of the survey manual and has extensive experience in this type of survey.

During training, major emphasis was placed on the reliability of inter-surveyor responses in order to assure optimal validity of the data. For certain questions, rules were established to assure that two independent surveyors interpret and code in the same way the observed actions and answers given by the health worker.

4.5 Data collection in the field

4.5.1 General organization

The four chief regional physicians were informed before the survey began, but the health facilities were not given advance warning. This procedure, recommended by WHO, allows one to really observe what routinely happens in health establishments. The disadvantages of the surprise and the risk of absence of the health worker are minor in comparison to the advantages of the method.

Two groups, each composed of three teams of two surveyors and two supervisors were established. Each group visited two regions: Louga-Kaolack and Ziguinchor-Fatick. The groups were constituted so that surveyors worked in regions other than the one they were from. Thus surveyors from Louga and Kaolack worked in the regions of Ziguinchor and Fatick and vice versa.

Data collection occurred from 5-16 September 1994. Each of the two groups had the use of two 4-wheel drive vehicles. Because of the logistics of lodging, each group returned to the regional capital at the end of each day. This allowed a meeting to be organized each evening during which the questionnaires were verified by the surveyors and supervisors.

During the initial days of the survey, these meetings also served to assure the best possible inter-surveyor reliability by means of confirmation of the common rules established during training and fine-tuning of certain remaining obscure points.

The two supervisors in each group each accompanied a team of two surveyors each day to reinforce the cohesion and coherence of the data collection. During the first four days in the field, the Louga group benefitted from the presence of Dr. Jane Lucas, functioning as a supervisor. The supervisors changed teams every day.

At the end of the first week of data collection, the two groups met in Kaolack, where they stayed in the same hotel during the rest of the survey. Kaolack was thus the base for the teams working in the neighboring regions of Kaolack and Fatick. The opportunity of having the two groups of six surveyors and four supervisors together permitted a general meeting to assure the best possible inter-group reliability.

The plan to have a common base for each team of two surveyors at Louga, Ziguinchor and Kaolack had the advantage of bringing group members together each evening to discuss in a standardized way problems encountered and solutions found. The disadvantage in having common bases was the

distances traveled were considerably increased. During the two weeks in the field, the four vehicles (plus that of the BASICS/Senegal representative providing liaison and logistic support to the two groups) covered 11,926 kilometers.

4.5.2 Data collection in the health facilities

The surveyors arrived at a health facility before the beginning of consultations and identified children with diarrhea as previously described.

The surveyor observed the health agent during the case management (history, physical examination, advice, and treatment). Then in a separate room, s/he examined the child to determine the validity of the diagnosis and treatment given by the health worker. This assessment was followed by an interview with the mother or caretaker about her knowledge of diarrhea.

At the end of the diarrheal consultations, the surveyor had an individual meeting with the health worker/s who managed diarrhea cases and then evaluated the facility and its supplies. Finally a review of available outpatient and inpatient records was undertaken to find information on the last 20 ambulatory cases and the last 10 hospitalized cases of diarrhea.

4.6 Feedback

Before leaving each health facility, the teams of surveyors and supervisors had a meeting with the person/s in charge of diarrhea case management. On the basis of information collected, concrete recommendations were given in order to improve the quality of services. Photocopies of the 1992 version of the WHO/CDD brochure entitled, "Diarrhea Case Management," were distributed.

Before leaving each region, a meeting was held with the chief regional physician (except Louga, where the chief physician was away on a trip) to provide a synthesis of the principal observations and associated preliminary recommendations.

After two weeks of data analysis, a preliminary presentation of the principal results and recommendations was held on 30 September 1990 in the BASICS offices in Dakar. The meeting was attended by representatives from the MPHSA, SANAS, WHO (Dakar, Abidjan and Brazzaville), USAID, BASICS, MSH, AFRICARE, Tulane/Morehouse Universities, and WELLSTART.

BASICS also plans to hold workshops in the four regions with the participation of the chief physicians at the regional and district levels and the CDD/PHC supervisors in the regions and districts.

4.7 Data analysis

Six surveyors chosen among the twelve and the four supervisors participated in the data analysis done at the BASICS office in Dakar from 19-23 September 1994.

The data from forms 1 and 2 had already been transferred to the corresponding tally sheets by the four supervisors in the field. Tally sheets for forms 3 and 4 were completed by small groups in Dakar. A plan of analysis was then made with a list of general and specific questions responding to the survey objectives. Finally, the results of the indicators, calculated manually from the tally sheets, were discussed.

The global indicators were calculated without weighting, given the similar proportions of the samples of selected posts to functional posts by region (15 percent to 20 percent).

The recommendations were made in sub-groups before formulation of a general synthesis in order to assure that they would be directed towards concrete actions, adapted to the national CDD program and take local constraints into consideration.

The preliminary survey report was written and submitted on 30 September 1994.

Simultaneously, from 23-26 September, data were entered into a computer using the program EpiInfo (Developed by CDD/WHO). The final report was written in Paris after computer analysis of the data using EpiInfo. Statistical tests used to compare stratified data included Yates corrected chi square, Fisher's exact test and relative risk with a confidence interval of 95 percent.

5. RESULTS - DISCUSSION

5.1 General

One of the sixty health facilities selected during the planning of the survey was excluded (Dionewar, in the health district of Foundiougne, in the region of Fatick) for logistical reasons. Two days of travel, including a trip in a dugout canoe, would have been required to reach this health post and return.

During the training, eight selected health posts were eliminated from the sample because available information indicated that they would be nonfunctional during the period of the survey (health post nurses were attending a training workshop on family planning). These posts were replaced from the list of replacements that had already been identified.

During the data collection in the field, another eight health posts in the sample had to be replaced. Reasons for these changes included the unforeseen absence of the post chief nurse or the closure of the post because of a death in the family. Three posts were replaced in the region of Ziguinchor, two in Fatick, two in Kaolack and two in Louga. Seven of the replacement posts were in the same health district as the closed one, and for logistical reasons, one came from another health district. One more private catholic dispensary was visited than initially planned. (In the town of Foundiougne in the region of Fatick). It was about 100 meters from the health center. A summary of the health facilities visited by region is presented in Table 2. A detailed description is presented in Appendix 2.

Table 2

Number of Health Facilities Visited by Region
Senegal, September 1994

Type of health facility	FATICK	KAOLACK	LOUGA	ZIGUIN CHOR	**TOTAL**
Hospital	0	1	1	0	**2**
Health Center	6	4	5	3	**18**
Health Post	8	10	10	7	**35**
Priv. Catholic Disp.	3	0	0	3	**6**
Total	**17**	**15**	**16**	**13**	**61**

Note: For the analysis, the data for observed cases in hospitals and health centers are combined as well as those from health posts and private catholic dispensaries. The total number of children observed was 224.

A total of 223 interviews were held with mothers or caretakers. (One mother had two children with diarrhea.). Twelve additional interviews were held with mothers of children under five presenting for reasons other than diarrhea.

The total number of interviews with health agents was 86, of whom 66 had been observed managing at least one case of a child with diarrhea. Sixty-one assessments of health facilities and supplies (one per health facility visited) were carried out.

A total of 1168 cases of diarrhea were found in clinical records, 1090 outpatients and 78 hospitalized patients. Of these cases, 178 (15 percent) defined as having dysentery.

Table 3 presents the distribution by region and type of establishment of the children observed.

Table 3

Number of Children Included in the Survey
by Region and by Type of Health Facility

Type of health facility	FAT	KAO	LOU	ZIG	**TOTAL**
Hospital / Health Center	32	35	19	13	**99**
Health Post / Priv. Catholic Dispensary	35	33	45	12	**125**
Total	**67**	**68**	**64**	**25**	**224**

The 224 children observed represented a mean of 3.7 cases (224/61) observed per visited health facility. The mean is similar (from 3.9 to 4.5) in the regions of Fatick, Kaolack and Louga, and is less in Ziguinchor (1.9).

Among the 224 children included in the survey, 7 (3.1 percent) had severe dehydration, 26 (11.6 percent) had moderate dehydration and 191 (85.3 percent) had no dehydration. There were 25 (11.2 percent) children, who according to the mother had had bloody diarrhea, and thus were considered to be suspect cases of dysentery.

The symptoms most often associated with diarrhea were fever (32 percent) and cough (20 percent). No significant regional differences were found.

Note: Because of small sample sizes, the results of this survey, particularly when presented by specific region, must be interpreted with caution.

Table 4

Sample Characteristics
Health Facility Survey, Senegal, September 94

	FAT	KAO	LOU	ZIG	TOTAL
Age of observed children	67	68	64	25	224
0 - 11 months	15	23	10	14	62
12 - 59 months	52	45	54	11	162
Observed cases treated by					
Doctor	6	8	6	12	31
Nurse	56	59	55	11	181
Midwife	0	0	0	0	0
Other (Social Assistant)	5	1	3	2	11
Degree of dehydration of observed cases					
Number of Plan A cases	57	61	53	20	191
Number of Plan B cases	8	6	8	4	26
Number of Plan C cases	2	1	3	1	7
Total number if observed cases	67	68	64	25	224
Suspected cases of dysentery	9	4	12	0	25
Number of health workers interviewed	22	21	27	16	86
Number of health workers interviewed and observed	17	15	24	10	66
Number of mothers/caretakers interviewed after case observation	66	68	64	25	223
Number of mothers/caretakers interviewed without case observation	4	2	1	5	12
Number of diarrhea cases identified in the records	336	295	277	260	1168
Number of these cases identified as dysentery	47	56	60	15	178

The overall mean number of observed children in the hospital/health center category is 5.4, varying from 4.3 in Ziguinchor to 7.0 in Kaolack.

At the level of health posts/PCD the mean is 2.8, varying from 1.2 in Ziguinchor to 3.3 in Kaolack. The mean age of observed children is 18.5 months, the median is 18 months and the range is from 1 to 59 months.

5.2 Quality of case management

The quality of diarrhea case management was evaluated by comparing the observation data with the results of the clinical examinations of the same children by the surveyors.

A case of diarrhea was considered to have been correctly treated if the child was correctly assessed, appropriately treated, and rehydrated in the case of dehydration (Plan B or C), and the mother was correctly advised when there was no dehydration (Plan A).

A summary of the five key indicators of the quality of case management is presented in Table 5. The cases seen in the two categories of health establishment are combined: hospital/health center and health post/PCD. A table stratified by type of health establishment is found in Appendix 4.

Table 5

Summary of Key Indicators of the CDD Program Pertaining to Correct Diarrhea Case Management in Children, Senegal 1994

Key indicators of CDD program	FATICK	KAOLACK	LOUGA	ZIGUIN-CHOR	**TOTAL**
Diarrhea cases correctly evaluated *	37,3% (25/67)	36,8% (25/68)	32,8% (21/64)	36,0% (9/25)	**35,7% (80/224)**
Diarrhea cases correctly rehydrated **	20,0% (2/10)	28,6% (2/7)	27,3% (3/11)	0% (0/5)	**21,2% (7/33)**
Diarrhea cases correctly advised ***	14,0% (8/57)	19,7% (12/61)	13,2% (7/53)	0% (0/20)	**14,1% (27/191)**
Dysentery cases having received an appropriate antibiotic	11,1% (1/9)	25,0% (1/4)	66,7% (8/12)	--- No dys-entery	**40,0% (10/25)**
Diarrhea cases correctly managed (WHO/UNICEF Indicator)	4,5% (3/67)	10,3% (7/68)	3,1% (2/64)	0% (0/25)	**5,4% (12/224)**

Notes :

*: A child was correctly evaluated if the health worker asked when the episode began, if there was any blood in the stools and if there was agreement between the health worker and the surveyor regarding the degree of dehydration.

**: Cases of Plan B or C only

***: Cases of Plan A only

The overall quality of performance in diarrhea case management is very insufficient. Keeping in mind the small sample sizes, we see that the regions of Ziguinchor and Louga have the lowest performance levels, while the other two regions have rather similar results.

5.2.1 Assessment of children

According to WHO recommendations, the assessment of a child with diarrhea must include questions on its history[5] and a careful clinical examination. This examination must look for at least 4 out of 6 clinical signs of dehydration[6] and include evaluation of the temperature, weight, and nutritional status of the child.

Among the observed cases, the most commonly asked question concerned the beginning of the episode (87 percent) and the least asked question was about blood in the stools (46 percent). The health workers often asked about the nature of the stools (consistency, color, odor, and presence of mucus), but the specific question related to blood was forgotten in more than half of the cases.

Figure 1

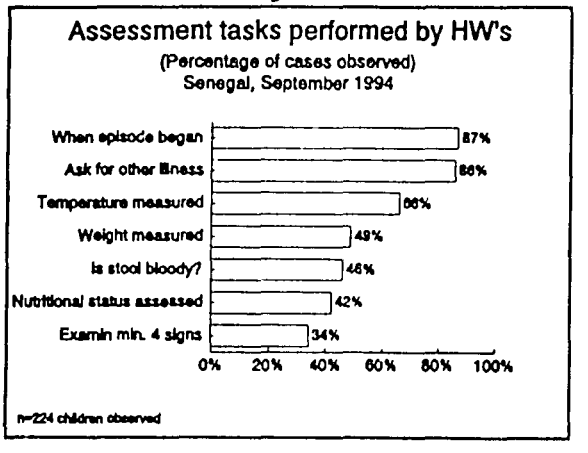
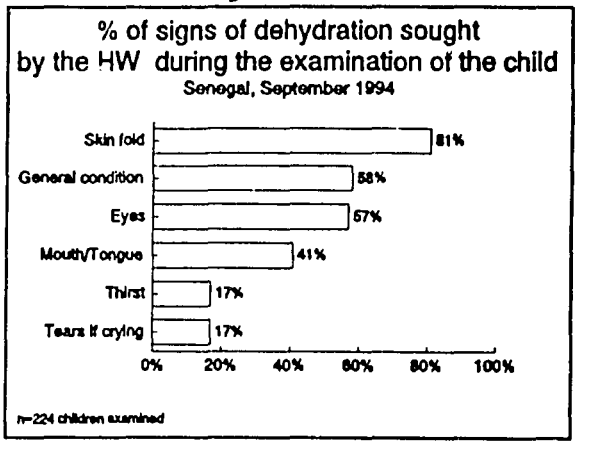


Figure 2



Among the clinical signs of dehydration, the one most often sought is the skin fold (81 percent), the least often sought were "tears in case of crying" (17 percent) and evaluation of thirst (17 percent). The interpretation by health workers of the skin fold was usually correct. Examination of the eyes, when it was done, was usually for conjunctival color rather than the presence of sunken eyeballs. Questions about thirst were rarely asked and drinking water was never offered to a child.

The proportion of overall agreement between the surveyor and the health worker concerning the degree of dehydration is high (83 percent). This result seems to be contradictory to the low

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5 1) Beginning of the episode, 2) presence of blood in the stools, and 3) associated illness.

6 1) General condition, 2) eyes, 3) tears if crying, 4) thirst, 5) mouth/tongue, and 6) abdominal skin fold.

percentage of correct diagnoses. Table 6 presents the levels of agreement between surveyor and health worker by category of dehydration.

Table 6

Proportion of Cases with Agreement Between Surveyors and Health Workers Regarding the Degree of Dehydration and Proportion of Correct Diagnoses of Children by Health Workers by Degree of Dehydration

		FAT	KAO	LOU	ZIG	**TOTAL**
PLAN A	Agreement Surv/HW re dehydration	86% 49/57	95% 58/61	74% 39/53	100% 20/20	**87% 166/191**
	Correct Diagnosis *	42% 24/57	38% 23/61	34% 18/53	45% 9/20	**39% 74/191**
PLAN B	Agreement Surv/HW re dehydration	38% (3/8)	83% (5/6)	75% (6/8)	25% (1/4)	**58% (15/26)**
	Correct Diagnosis	13% (1/8)	33% (2/6)	38% (3/8)	0% (0/4)	**23% (6/26)**
PLAN C	Agreement Surv/HW re dehydration	100% (2/2)	100% (1/1)	100% (3/3)	100% (1/1)	**100% (7/7)**
	Correct Diagnosis	0% (0/2)	0% (0/1)	0% (0/3)	0% (0/1)	**0% (0/7)**

Note :

* : Correct diagnosis = Questions asked by the health worker about the beginning of the episode, the presence of any blood in the stools, associated with agreement between the HW and the surveyor regarding the degree of dehydration.

The explanation lies in the fact that the assessment of degree of dehydration does not include the question about presence of blood, which if forgotten, lowers the percentage of children correctly evaluated.

Even if the number of clinical signs of dehydration sought was often less than four, the health workers most often correctly assessed the degree of dehydration by means of the skin fold. On the other hand, the vast majority (85 percent) of observed children were not dehydrated, (Plan A) and diagnostic errors were in general made by default (conclusion of Plan A when the case was really Plan B). These points explain the results of the indicator, "agreement on the degree of dehydration".

5.2.2 Treatment evaluation

The overall proportion of agreement between surveyor and health worker concerning the treatment plan is 81 percent (181/224). There is no significant difference among the regions but such agreement is higher in health posts (90 percent) than in health centers/hospitals (69 percent), RR = 1.32.[7] The level of agreement also varies according to the degree of dehydration: it is 87 percent for Plan A children (n=191), 27 percent for Plan B children (n=26) and 100 percent for Plan C children (n=[illegible]). The sensitivity of the diagnosis of dehydration by the health workers is 67 percent when compared to that of the surveyors, taken as a reference.[8]

Among cases of Plan A, the domestic solution of ORS packets was prescribed in 84 percent of the cases. Most of the time (80 percent) advice was given, either on ORS (31 percent), the domestic solution (41 percent) , or both (7 percent). Examination of clinical records does not provide much information on this subject, since the prescription of ORS is not systematically noted. Furthermore, the frequent ORS stockouts explain why health workers give instructions more often on domestic solution than on ORS. On the other hand, some health workers prefer to promote the domestic solution in order to avoid making mothers dependant on ORS packets.

If one only considers children with moderate or severe dehydration, agreement between surveyors and health workers on the treatment plan is 42 percent overall, 40 percent for Fatick, 57 percent for Kaolack, 45 percent for Louga, and 20 percent for Ziguinchor.

Table 7 presents a summary of the indicators obtained for the treatment of children with moderate or severe dehydration.

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7 Interpretation of relative risk: Agreement on the treatment plan is 1.3 times more probable in a health post than in a HC/hospital..

8 Sensitivity is defined as the probability that a HW has identified as dehydrated a child who is really dehydrated. A value of 67 percent implies that one-third of dehydrated children risk not receiving an appropriate treatment.

Table 7

Evaluation of Treatment of Children with Moderate or Severe Dehydration, by Region, Senegal, September 1994

	FAT	KAO	LOU	ZIG	**TOTAL**
Agreement between surveyor and health worker regarding treatment plan	40% (4/10)	57% (4/7)	45% (5/11)	20% (1/5)	**42% (14/33)**
Correct treatment begun within 30 minutes at the health facility	20% (2/10)	29% (2/7)	36% (4/11)	20% (1/5)	**27% (9/33)**
Adequate quantity of ORS or IV solution prescribed	10% (1/10)	29% (2/7)	9% (1/11)	0% (0/5)	**12% (4/33)**
Satisfactory progression of treatment within the first 2 hours *	20% (2/10)	29% (2/7)	27% (3/11)	0% (0/5)	**21% (7/33)**
Children correctly rehydrated	20% (2/10)	29% (2/7)	27% (3/11)	0% (0/5)	**21% (7/33)**
Children correctly managed **	10% (1/10)	14% (1/7)	0% (0/11)	0% (0/5)	**6% (2/33)**

Notes

* Three out of seven children considered to have been sufficiently rehydrated actually received twice the theoretically correct volume of IV solution during the first two hours of treatment. If this treatment is defined as being unsatisfactory, then the value of the indicator drops from 21 percent to 12 percent (4/33).

** The definition of "child correctly managed" is a correct diagnosis associated with correct rehydration.

The WHO manual specifies that children with moderate dehydration should be rehydrated with ORS packets in a health facility for a minimum of four to six hours. Those who are severely dehydrated should receive appropriate quantities of an IV solution. The recommended solution in Senegal is Ringer's Lactate. If it is not available then normal saline is suggested or 5 percent dextrose in water to which has been added 4 g/liter of NaCl and 1.5 g/liter of Kcl.

Most observed prescriptions for dehydration (Plan B or C) made by health workers do not follow the therapeutic protocols recommended by the national program or WHO. The prescribed volumes are often for 24 hours, with no indication of the quantity to be administered during the first six hours. Sometimes a liter of ORS or 500 ml. of IV solution is prepared and the health worker adjusts the

volume given as a function of the results. Thus quantities are prescribed more as a result of subjective judgement than by the application of rules expressed in terms of volume of liquid per kilogram of body weight over a certain period of time.

In the case of suspected cases of dysentery, the national Senegalese protocol recommends that dysentery be categorized on the basis of clinical signs: bloody diarrhea accompanied by fever = bacillary dysentery and bloody diarrhea without fever = amebic dysentery. First line antibiotics for bacillary dysentery include Cotrimoxazol or Ampicillin, with Amoxicillin being reserved as a second choice. Metronidazole is the recommended drug for amebiasis.

To our knowledge, laboratory results, when they do exist, are not used to determine public health policy. In the case of bacillary dysentery, one does not know the predominant causative bacterium and its sensitivity to currently used antibiotics. Given that most health facilities do not have the possibility of laboratory diagnosis, presumptive diagnoses are made by the health workers.

Table 8 presents a summary of the antibiotic treatments given to children suspected of having dysentery.

Table 8

Observed Administration of Antibiotics to Children Suspected of Having Dysentery (n=25)

	FAT	KAO	LOU	ZIG	**TOTAL**
Cases of dysentery treated with antibiotics	11% (1/9)	25% (1/4)	67% (8/12)	-- No cases	**40% (10/25)**
Cases of dysentery treated with appropriate antibiotics	11% (1/9)	25% (1/4)	67% (8/12) *	-- NA	**40% (10/25)**

* Including two cases of dysentery treated with appropriate antibiotics, but for a reason other than dysentery.

About half of the cases of dysentery received an antibiotic. The other half did not receive antibiotics because the health worker did not make the diagnosis, having forgotten to ask the question about blood in the stools. Among the ten observed cases where antibiotics were prescribed, Cotrimoxazole was given nine times and Ampicillin once. Six of the cases were also given Metronidazole.

Seventy-two cases of simple diarrhea, without dysentery (72/199 = 36 percent), received antibiotics. Thirty-one of these treated cases presented with an associated illness that justified the use of antibiotics (acute respiratory infections). Thus 24 percent of the treated cases (41/161) received antibiotics for diarrhea for unjustified reasons.

The estimation of this proportion during the survey is undoubtedly low, due to the fact that the surveyors noted in the clinical records that the frequency of prescription of antibiotics for diarrhea was often higher than that observed the day of the survey. (see chapter 5.7). Furthermore, certain health workers justify the use of antibiotics for isolated symptoms (cough, for example) without doing a clinical examination to determine the presence or absence of a respiratory infection. Certainly the presence of the surveyors on the day of the survey had some influence on health worker behavior.

Metronidazole is prescribed in 52 percent of cases of diarrhea that contains blood and/or mucus. Anti-diarrheal medicines (Ganidan, Ercéfuril, Ricridène, etc.) are prescribed in about 10 percent of cases. There is much variation from one health worker to another. Here also, the practices and answers given by the health workers on the day of the survey do not always agree with the information found in the clinical records. The most common reasons given for the prescription of anti-diarrheals are their effectiveness and the fact that they are appreciated by mothers.

An anti-helminth drug (Mebendazole) is prescribed in 17 percent of cases, either systematically or when the history suggests the presence of worms. Medicines against vomiting are rare, being only prescribed in 2 percent of cases (5/224).

Finally, an associated treatment is prescribed in 79 percent of cases. This most often consists of Chloroquine (systematic or when there is fever) and aspirin, with or without other medicines. One must remember that the survey occurred during the rainy season, the period of high malaria incidence. In the case of bloody diarrhea accompanied by fever, it is difficult to determine if the cause of the fever is bacterial or malarial.

5.2.3 Advice on rehydration

Every child presenting at a health facility with diarrhea unaccompanied by signs of dehydration should be treated at home with ORS or a home solution (SSS) and receive advice including the three rules of home case management. Caretakers of children with diarrhea who are moderately or severely dehydrated should receive the same advice, but since this may be given after the rehydration of the child at the health facility, the activity may not have been observed by the surveyors. This is why we limit our analysis to cases of diarrhea without dehydration (n=191). Table 9 summarizes the results.

Table 9

Instructions and Advice Given by the Health Worker to the Mother or Caretaker of Children Not Dehydrated (Plan A) Senegal, September 1994

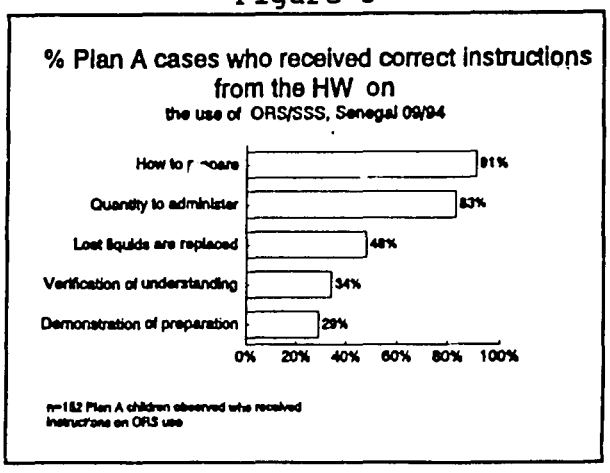
	FAT	KAO	LOU	ZIG	**TOTAL**
ORS/SSS prescribed to Plan A children	81% (46/57)	84% (51/61)	85% (45/53)	95% (19/20)	**84% 161/191**
Instructions on ORS/SSS given for Plan A children	81% (46/57)	77% (48/61)	77% (41/53)	85% (17/20)	**80% 152/191**
Correct instructions given for ORS/SSS *	57% (26/46)	71% (34/48)	71% (29/41)	18% (3/17)	**61% 92/152**
Correct advice given for home management (3 rules)	14% (8/57)	20% (12/61)	13% (7/53)	0% (0/20)	**14% 27/191**

Note

Denominator = Number of cases of Plan A whose mothers or caretakers received instructions on the use of ORS/SSS.

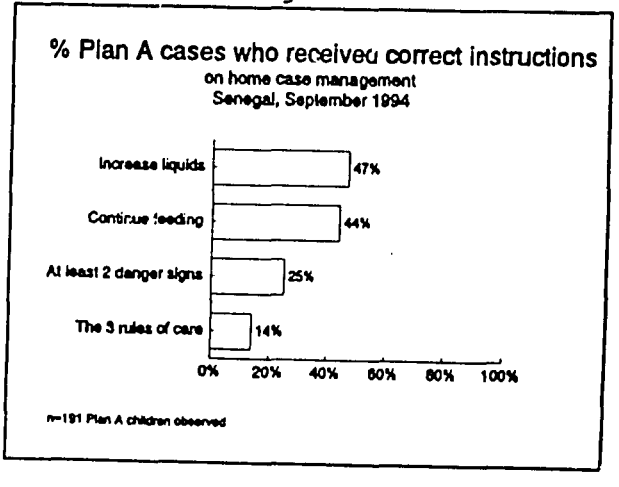
In order for the instructions on the use of ORS/SSS to be considered correct, the health worker must give the caretaker at least two of the five instructions that are shown in Figure 3. The two instructions most often given describe the preparation of an ORS solution (dissolve the contents of the packet in a liter of water) and the volume of liquid to give to the child (as much as the child will drink or in small quantities after each stool if the child is dehydrated).

Figure 3



The quality of advice given to caretakers on home case management is low if one considers the indicator of the three rules which are 1) increase liquids, 2) continue to feed, and 3) know at least two out of seven danger signs that indicate that the mother should return with the child to a health facility. The low proportion of cases (14 percent) that received the three rules of home care is particularly due to the fact that the health workers do not inform the mothers of at least two danger signs. These results are shown in Figure 4.

Figure 4



Note:

At least 2 out of 7 danger signs should be told by the health worker to the caretaker, indicating when it is necessary to return with the child to a health facility. These are 1) many liquid stools, 2) repeated vomiting, 3) intense thirst, 4) child not eating or drinking well, 5) fever, 6) blood in the stools, and 7) child does not improve.

The danger signs most often cited are, "if the child does not improve" (27 percent), "if the child continues to have liquid stools" (17 percent, and "if there is fever" (15 percent). Signs the least often cited are, "intense thirst" (3 percent), and "blood in the stools" (2 percent).

5.3 Knowledge of the mothers and caretakers

5.3.1 Home case management

A total of 223 mothers or caretakers were confidentially interviewed at the health facilities in order to assess their knowledge of home case management of diarrhea. Table 10 presents a summary of the information collected.

Table 10

Proportion of Mothers or Caretakers with Knowledge Regarding the Three Home Case Management Rules for Children with Diarrhea

	FAT	KAO	LOU	ZIG	**TOTAL**
Give more liquids	55% (36/66)	63% (43/68)	47% (30/64)	60% (15/25)	**56% 124/223**
Continue feeding	92% (61/66)	94% (64/68)	89% (57/64)	88% (22/25)	**91% 204/223**
Danger signs indicating that the child be brought back to the health facility	50% (33/66)	63% (43/68)	70% (45/64)	56% (14/25)	**61% 135/223**
All the three rules	30% (20/66)	37% (25/68)	30% (19/64)	28% (7/25)	**32% 71/223**

An average of 32 percent of mothers or caretakers know the three rules of home case management. The importance of increased liquids and being able to identify at least two danger signs are only known by a little more than half of the mothers or caretakers. The danger signs most often cited are "if the child does not improve" (60 percent), "many liquid stools" (53 percent,) and "fever" (29 percent). The two signs which are most often omitted are the presence of blood in the stools (3 percent) and increased thirst (4 percent).

5.3.2 Use of ORS or home solution

Seventy-seven percent of mothers received instructions on the use of ORS or home solution (SSS). Seventy-one percent claim to know when and how to administer ORS or SSS and 75 percent know how to prepare ORS (in a liter of water) or SSS (eight sugar cubes and one level teaspoon of salt/liter of water).

Table 11

Knowledge of Mothers or Caretakers Regarding ORS or the Home Solution Senegal, September 1994

	FAT	KAO	LOU	ZIG	**TOTAL**
Claim to have received instructions	82% (54/66)	76% (52/68)	73% (47/64)	76% (19/25)	**77% 172/223**
Know when and what quantity to give	65% (43/66)	78% (53/68)	72% (46/64)	68% (17/25)	**71% 159/223**
Know how to prepare the ORS or SSS solution	67% (44/66)	81% (55/68)	77% (49/64)	76% (19/25)	**75% 167/223**

The sources of knowledge of the caretakers include health workers (82 percent), radio/television (23 percent), relatives or neighbors (12 percent), and health education sessions (5 percent). These numbers add up to more than 100 percent because multiple responses were permitted.

5.4 Health worker knowledge on diarrhea case management

A total of 86 health workers were interviewed during the survey (Fatick=22, Kaolack=21, Louga=27, Ziguinchor=16). Among these, 66 (77 percent) were observed treating at least one child with diarrhea.

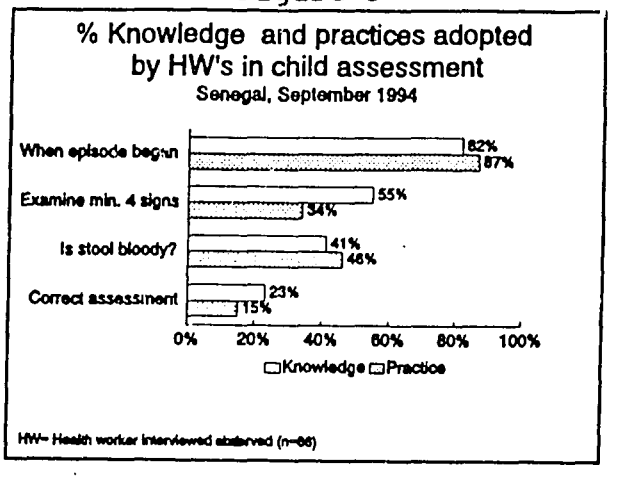
5.4.1 Assessment of the child's status

For the four regions combined, 81 percent of the health workers know the importance of asking about the beginning of the diarrheal episode, and 42 percent asking about the presence of blood in the stools. Fifty percent know at least four of the six clinical signs of dehydration. These three indicators together, when carried out correctly, give the proportion of health workers who know how to establish a correct diagnosis. Given this definition, only 22 percent of health workers know how to correctly diagnose diarrhea. This proportion varies from 50 percent (11/22) at Fatick, 15 percent (3/21) at Louga, 14 percent (4/27) at Kaolack, and 6 percent (1/16) at Ziguinchor.

Of the six clinical signs of dehydration, 97 percent of health workers mentioned the skin fold and 90 percent mentioned sunken eyeballs. Dry mouth and mucus membranes were only mentioned by 55 percent of health workers. The least mentioned signs were the presence or absence of tears in the case of crying (27 percent) and assessment of thirst (49 percent).

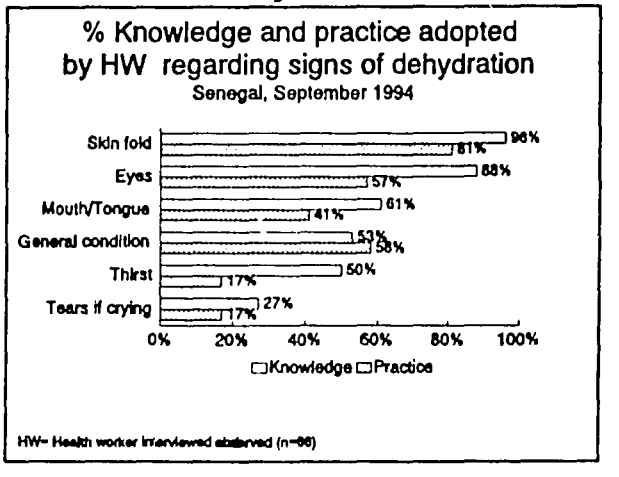
Comparisons of the knowledge of health workers as evaluated by interview (Questionnaire 3) with the clinical practice of these same workers when treating children with diarrhea (Questionnaire 1) are presented in Figure 5. Only the health workers interviewed and observed are included in the comparisons (Fatick=17, Kaolack=15, Louga=24, and Ziguinchor=10).

Figure 5



Practices as determined in the interviews are slightly better than knowledge. On the other hand, although about half of health workers know at least four of six signs of dehydration, only one-third search for them in practice. The final result is that less than a quarter of health workers know how to correctly assess a child and only 15 percent actually do it correctly in reality.

Figure 6



Health worker knowledge about the six clinical signs of dehydration is always higher than the practices of the clinical examination (except for the assessment of the child's general condition).

5.4.2 Treatment of a child with diarrhea

Beyond a correct assessment, the choice of the correct treatment plan is of fundamental importance in diarrhea case management of children.

Table 12

Assessment and Treatment of Dehydrated Children, and Treatment of Cases of Dysentery

		FAT	KAO	LOU	ZIG	**TOTAL**
Dehydration	Correct selection of the treatment plan	55% 12/22	33% 7/21	33% 9/27	38% 6/16	**40%** **34/86**
Moderate Plan B	Correct quantity of ORS prescribed	27% 6/22	29% 6/21	7% 2/27	19% 3/16	**20%** **17/86**
Dehydration	Correct selection of the treatment plan	91% 20/22	90% 19/21	81% 22/27	81% 13/16	**86%** **74/86**
Severe Plan C	Correct quantity of IV solution prescribed *	20% 3/15	9% 1/11	33% 5/15	17% 2/12	**21%** **11/53**
Cases of bacillary dysentery	Correct treatment of bloody diarrhea with fever **	47% 9/19	50% 10/20	58% 15/26	33% 5/15	**49%** **39/80**
Suspected amebiasis	Correct treatment of bloody diarrhea without fever **	68% 13/19	75% 15/20	69% 18/26	60% 9/15	**69%** **55/80**

Notes:

*: Denominator = Only health workers authorized to prescribe IV solutions

**: Denominator = Only health workers authorized to prescribe antibiotics

In the case of children with moderate dehydration, only 40 percent of health workers choose the correct plan of treatment. The others send the child home, often because of the lack of an oral rehydration unit. Only 20 percent prescribe the correct volume of ORS.

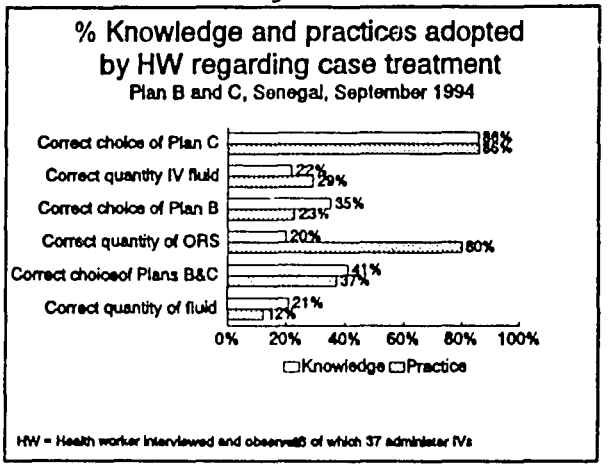
The selection of the correct treatment plan when dehydration is severe is done by 86 percent of health workers on average, but only 21 percent of them know the correct volume to prescribe.

The knowledge of treatment choice for bloody diarrhea accompanied by fever is correct for one out of two health workers. Correct treatment for bloody diarrhea without fever is known by two-thirds of the health workers interviewed.

When the knowledge of health workers in health centers/hospitals is compared with that of workers in health posts, regarding the treatment of dehydration and bloody diarrhea, no significant differences are found.

Figure 7 presents a summary of the knowledge and practice of health workers in the treatment of dehydrated children (Plans B and C), only including health workers who were interviewed and observed.

Figure 7



In the case of severely dehydrated children (Plan C), there is agreement between knowledge and practice regarding the selection of the treatment plan in 86 percent of cases. Clinical practice concerning choice of the correct volume of IV solution to administer (29 percent) is superior to knowledge (22 percent), as measured by the interviews.

For moderately dehydrated children, knowledge is always superior to practice, whether for selection of the correct treatment plan (35 percent versus 23 percent) or for correct quantities of ORS to administer (20 percent versus 8 percent).

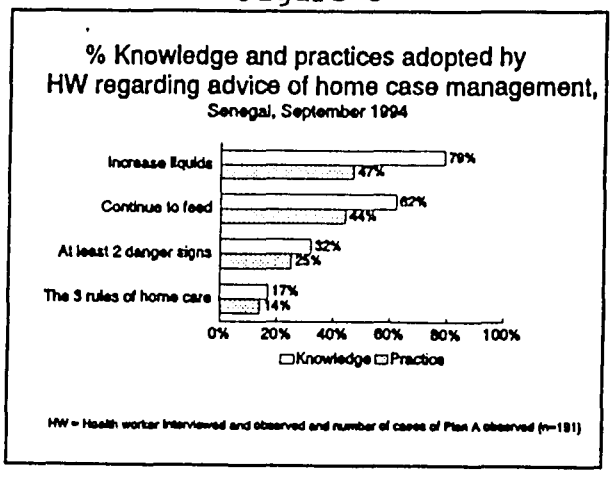
Figure 7 also illustrates that selection of treatment plans and volumes of fluid to administer are better done by health workers for severely rather than moderately dehydrated children.

5.4.3 Advice given to caretakers

Most cases of diarrhea (85 percent) presenting in health facilities are found to be "Plan A" and are thus sent home for treatment. Thus it is important that instructions and correct advice be given to caretakers to prevent the risks of dehydration.

According to the interviews with the 86 health workers, 77 percent advise increased liquids, 61 percent advise continuing feeding of the child, and only 28 percent mention at least two danger signs that should cause the child to be brought back to the health facility.

Figure 8



These three indicators combined give the proportion of health workers who know the three rules of advice to give to the caretaker of a child who is not dehydrated. The result is that only 17 percent know these three rules.

The interviews revealed that almost 80 percent of health workers instruct the caretakers on the preparation of ORS or domestic solution, 63 percent explain the quantity of ORS/SSS to administer to the child, and only 31 percent explain that ORS/SSS replaces liquid losses. For over 90 percent of health workers, these instructions are given orally during the consultation and in about 20 percent of cases there is an accompanying demonstration

5.5 Health worker training and supervision

5.5.1 Training

The overall percentage of health workers who have participated in a CDD training course is 63 percent, which had occurred within the last three years for only 50 percent of those interviewed.

According to the current CDD training criteria in Senegal, training is considered to be correct if it has occurred within the last three years, lasted a minimum of five days (of which two were clinical practice) and the participant treated at least one child with diarrhea or saw a video on CDD. This was also the definition of training established during the survey training week. Given these criteria, only 33 percent (28/86) of the interviewed health workers filled the conditions.

These results are surprising, given the important effort that the CDD program has made during recent years to organize training courses at the regional and health district levels. One must, however, interpret these results with caution, for health workers having had only one day of clinical practice, or only four days of training, or who neither treated a child or saw a video were considered to be untrained. Furthermore some health workers were assigned to the regions after the training had already taken place.

If one includes health workers who only had one day of clinical practice but fulfilled all of the other conditions, then the proportion of trained workers reaches 40 percent.

In order to evaluate the impact of training on health workers, we did a comparison of the key indicators of diarrhea case management between those who were trained and untrained. These results are presented in Table 13.

Table 13

Comparison of Results of Key Indicators Between Health Workers Trained and Untrained in CDD, Senegal, September 1994

Key indicators of the CDD program	Trained HW	Untrained HW	Significant Difference
Cases of diarrhea correctly assessed	45% (39/86)	30% (41/138)	NO
Cases of diarrhea correctly rehydrated	29% (5/17)	13% (2/16)	NO
Cases of diarrhea receiving correct advice	20% (14/69)	11% (13/122)	NO
Cases of dysentery receiving appropriate antibiotics	43% (3/7)	39% (7/18)	NO

In spite of the fact that positive proportions were always higher for trained workers than for the untrained, none of the differences between the two groups were significantly different.[9]

One must note that for two of the indicators, the sample sizes are very small and thus limit statistical comparison.

5.5.2 Supervision

Supervision is not always considered to be necessary or useful by the health workers. One's attitude depends on the quality of supervision provided and what it does for the health worker. Among the 86 health workers interviewed, only 13 percent claimed to have been supervised within the previous three months (varying from 24 percent in Kaolack, 11 percent in Louga, 9 percent in Fatick, and 6 percent in Ziguinchor). Effective supervision was defined as at least one visit within the last three months during which the supervisor did at least two things from the following list: 1) observed diarrhea case management, 2) provided feedback on the observations, 3) enquired about the problems of case management, 4) looked at the clinical records, and 5) inspected the health facility and supplies.

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[9] The difference between two groups is not significant if the 95 percent confidence interval of the relative risk contains the value 1.0.

These results are not surprising. The reasons cited for lack of supervision are often the lack of vehicle or fuel for travel. This argument is not valid, however, when one considers that the health facilities in regional capitals or in health districts (where the CDD supervisors live) are supervised less rather than more than rural health posts. Furthermore, supervisor activities are rarely specific for CDD, because supervisors are responsible for many of the primary health care components. This explains why many of the health workers asked that supervision be more focused on CDD. Another important element that explains the low level of supervision is that few of the supervisors have been trained in CDD. They really do not know what to do for this program and thus their visits are often judged to be ineffective for the CDD program.

5.6 Evaluation of the health facility and supplies

5.6.1 Personnel

Many of the health centers visited were not fully staffed the day of the survey. Reasons for personnel absence included rest the morning after night duty, attendance at seminars and meetings, illness, or unexplained causes. The problem of lack of personnel, specific to health centers, hinders the delivery of quality services. But more than the problem of inadequate personnel, noted and always mentioned by the health workers, was the observation by the surveyors of the lack of flexibility and "polyvalence" of the health workers. Thus, for example, in the absence of the person responsible for the ORU/CREN, the activities which s/he normally does are not taken over by someone else, who most often would be available in the health center. Given that personnel absences are common, the activities of the CDD program are thus often irregular.

5.6.2 Availability of ORS and drugs

One of the objectives of the CDD program is to provide health facilities with ORS without stockouts. Table 14 presents the results of the survey.

Table 14

Availability of ORS in Health Facilities

	FAT	KAO	LOU	ZIG	**TOTAL**
ORS in stock the day of the survey	71% 12/17	47% 7/15	44% 7/16	92% 12/13	**62%** **(38/61)**
ORS permanently in stock during the 3 months prior to the survey	65% 11/17	27% 4/15	31% 5/16	69% 9/13	**48%** **(29/61)**

There is no difference between hospitals/HC and health posts in the availability of ORS the day of the survey or within the preceding three months.

The provision of ORS packets is the responsibility of the chief regional physician. The packets are stocked at the central level at the national pharmacy (PNA) and are distributed at no charge against a voucher signed by the medical region official. The packets are provided to the PNA by UNICEF and USAID. At the central level, there has been no stockout of ORS during the last three months. The low availability of ORS in the health facilities is largely explained by lack of motivation and awareness of responsible people at the regional level. The argument that the problem is one of lack of transport does not hold when one considers the frequent roundtrips of Ministry of Health vehicles between the regions and Dakar for whatever reason. The example of the region of Kaolack is a good illustration of the situation. In spite of a history of having no stockouts since 1992, Kaolack now for the first time has been out of ORS for three months. The person in charge of the regional CDD program has tried by all means available since June 1994 to have delivery of a four-month supply of ORS, estimated to be 16,000 packets. On several occasions the voucher was given to health personnel traveling to Dakar, but without results. The lack of ORS in the region now is of particular consequence since this is the period of the highest risk of diarrhea.

For several years Senegal has been implementing the policies of the Bamako Initiative. Availability, the day of the survey, of antibiotics recommended for dysentery was 61 percent for Cotrimoxazole, 49 percent for Ampicillin, and 30 percent for Amoxicillin. At least one of these three antibiotics was available in 74 percent of the facilities. These antibiotics are somewhat less available in hospitals/HC than in health posts, but the difference is not significant, with the exception of Cotrimoxazole during the last three months (RR=0,44).

Stockouts of Cotrimoxazole and Ampicillin are due to a lack of central availability at the PNA for several weeks.

Metronidazole was present in 57 percent of the health facilities on the day of the survey and in stock during the three previous months in 49 percent of the establishments visited.

5.6.3 Presence of an oral rehydration unit

In principle, according to the 1990-1995 objectives of the CDD program, every hospital and health center is supposed to have a functional oral rehydration unit. Health posts, depending on their size and means, may also have them. The survey results are as follows in Table 15.

Table 15

Presence of a Functional ORU and ORT Supplies

	FAT	KAO	LOU	ZIG	**TOTAL**
Presence of a functional ORU	12% 2/17	13% 2/15	6% 1/16	15% 2/13	**11% (7/61)**
Presence of ORT supplies	47% 8/17	40% 6/15	44% 7/16	15% 2/13	**38% (23/61)**
SANAS case management form used	6% 1/17	7% 1/15	0% 0/16	0% 0/13	**3% (2/61)**

The results of this indicator are generally very low. Only 25 percent of the hospitals/HC and 7 percent of health posts had functional ORU's the day of the survey visit. An available room to be equipped as an ORU had been planned in all of the health centers for over a year, but to date nothing has been done. The reasons invoked include the lack of personnel and supplies but in most cases, the lack of motivation is likely to be the cause of this deficit.

Many of the health posts are too small to have an ORU, but most of them have a room which could be equipped, either in the post or in an adjacent building. At this level, lack of personnel can be an obstacle where the nurse in charge is alone, except when s/he is assisted by community health workers.

SANAS had published an individual form for diarrhea case management (see Appendix 5). It is well designed and should facilitate the assessment and treatment of children with diarrhea. Unfortunately, this form is rarely available or used (3 percent) in spite of its distribution in three of the four regions visited.

5.6.4 Availability of health education material

Three-fourths of the health facilities visited hold health education sessions (on average, once every two weeks) and have flip charts for them on the subject of diarrhea. Few of the health workers use them, however, although claiming to find them well adapted. Most health education sessions are held in the form of discussions, without supporting educational materials. Due to lack of specific training, time, or personnel, health workers often admit that health education sessions are not a priority.

Wall posters on the subject of diarrhea and its complications are on display in 62 percent of the health facilities visited, no significant differences being found between health centers and health posts.

5.6.5 Availability of data on diarrhea

Our definition of data are the documents that allow one to follow the evolution of the number of children by age and month seen as both outpatients and hospitalized for diarrhea. The Senegalese

management information system (MIS) does not contain specific details on diarrhea; however, the monthly report form contains information on the number of children under five treated for diarrhea and the number treated with ORS. The other documents are the consultation and hospitalization records in the hospitals and health centers. One rarely finds individual forms or files of hospitalized patients, and when they do exist, they are difficult to use.

Only 52 percent of the health facilities were able to produce records containing data where one could find information on cases of diarrhea. For hospitals and health centers, this finding includes the presence of records of outpatient visits and hospitalizations. In a number of instances, the health workers claimed that the records (hospitalization files and monthly reports) existed, but that they were locked up and the person with the key was absent. Thus it is difficult to know exactly the proportion of hospitalization records and monthly reports that exist, but in any case, the health information is not used at the health facility level. Very few health facilities visited showed us graphs on diarrhea.

The mean number of consultations of children under five, calculated from the data in the most recent records found, was 144 per month. Of these, the mean number of diarrhea cases was 18, a proportion of 16 percent.

5.7 Examination of clinical records

From available clinical documents, the surveyors recorded cases of diarrhea in children under five. Among the 1168 cases identified, 1090 (93 percent) were ambulatory visits and 78 (7 percent) were hospitalized cases.

5.7.1 Ambulatory cases

Among the 1090 cases, 64 percent came from health posts, 34 percent from health centers, and 2 percent from hospitals. The total of diarrhea cases was 919 (84 percent), and there were 171 (16 percent) cases of dysentery.

For the entire sample, simple diarrhea represented 38 percent of the total, febrile diarrhea 30 percent, diarrhea associated with ARI 6 percent, and "infectious" diarrhea 3 percent. The remaining cases were associated with other illnesses.

The information found in the clinical records is incomplete. Thus, even if the treatment is mentioned 84 percent of the time, weight is only recorded in 8 percent of cases, the degree of dehydration in 6 percent.

In this sample, 19 percent of cases received no medication, 81 percent received at least one drug, 53 percent received two drugs, and 21 percent received three drugs.

Among the prescribed medications, Metronidazole is prescribed in 14 percent of cases and antibiotics in 27 percent (289 cases). Among the latter, the prescription of an antibiotic was not justified in 179 (62 percent) cases. Fifty (17 percent) received an antibiotic appropriate for diarrhea, and 60 (21 percent) received an appropriate antibiotic prescribed for a cause other than diarrhea.

Table 16

Evaluation of Treatments Administered to Children Suspected of Having Dysentery in the Clinical Records (n=178)

Appropriate antibiotic	28%	(49/178)
Inappropriate antibiotic	3%	(5/178)
No antibiotic	5%	(9/178)
Metronidazole	54%	(96/178)
Treatment not indicated	11%	(19/178)

5.7.2 Hospitalized cases

Among the 78 hospitalized cases, 73 percent came from health centers, 15 percent from hospitals, and 12 percent came from health posts. Diarrhea comprised 71 (91 percent) of the cases and dysentery 7 (9 percent).

Simple diarrhea represented 50 percent of the total sample, febrile diarrhea 14 percent, diarrheas associated with ARI 9 percent, and "infectious diarrhea" 5 percent. The other cases were associated with other illnesses.

The treatment is only mentioned in 63 percent of cases, the rehydration prescribed (ORS, IV or both) in 37 percent, and the degree of dehydration in 23 percent.

In this sample, 38 percent of the cases received no medication, 62 percent received at least one drug, 53 percent received two drugs, and 28 percent received three drugs.

Among the prescribed medications, Metronidazole is given in 5 percent of cases and antibiotics in 47 percent (37 cases). Among the 37 cases receiving antibiotics, the prescription was not justified in 20 (54 percent), three (8 percent) received an antibiotic appropriate for diarrhea, and 14 (38 percent) received an antibiotic appropriate for a cause other than diarrhea.

6 CONCLUSIONS

The survey has shown certain encouraging results; for example, there is 83 percent agreement between clinical examinations by health workers and surveyors concerning the degree of dehydration. In 84

percent of the observed cases, ORS or home solutions were prescribed, and in 80 percent of the cases instructions or advice was given to the mother or caretaker by the health worker.

Nonetheless, the quality of diarrhea case management of children is very low when one considers the five key indicators of the CDD program.

- A limited number of children are correctly evaluated, most often because of a lack of knowledge or lack of application thereof by health workers on the manner of doing a complete and systematic clinical examination.

- In the event of severe or moderate dehydration, the lack of knowledge and lack of calculation of adequate quantities of ORS and IV solutions to prescribe impinges on the quality of treatment. Only 7 of 33 dehydrated children were rehydrated correctly. Furthermore, 65 percent of children correctly diagnosed as "Plan B" by the health workers are treated at home (13/20). A partial explanation is the lack of functioning oral rehydrating units in the health facilities.

- Treatment of cases of simple diarrhea with antibiotics and/or associated with anti-diarrheal medicines is too frequent and not justified.

- About one-half of the cases of dysentery are not diagnosed because the health workers forget to ask about blood in the stools. Half of the cases of identified dysentery are treated with appropriate antibiotics while the other half receive antibiotics associated with Metronidazole.

- Danger signs indicating when the mother should return with her child to a health facility for continuing treatment are too rarely explained by the health workers.

- ORS packets or home solutions are frequently prescribed but necessary accompanying advice for their use is usually incomplete. Reasons often cited are lack of time and training in health education.

- The percentage of health workers trained according to SANAS criteria (33 percent) is slightly underestimated by the strict application established during the survey training. Nonetheless, some training courses, particularly at the district level are incomplete: established SANAS criteria are not always followed (lack of clinical practice) and are often run by trainers without adequate competence.

- The survey results regarding supervision corroborate the responses of interviewed health workers. It is often ineffective and irregular. The reasons are multiple and often associated. Lack of supervisory training has the effect that supervisors do not focus on CDD during their visits. No standard guidelines for CDD supervision are yet in use. Usually supervisors are responsible for other primary health care programs and thus do not spend enough time on

CDD. Finally transportation constraints, if they alone cannot justify the lack of supervision, do not facilitate the regular accomplishment of desired tasks.

- Stock-outs of ORS the day of the survey or during the previous three months are too frequent. The reasons invoked of lack of transportation are insufficient to explain this phenomenon. One must search for the causes in a lack of information and motivation of responsible persons at the regional levels. Lack of coordination of different heath programs does not help the regular distribution of ORS packets.

- The number of functional oral rehydration units is far less than the objectives of the CDD program. This deficit, often attributed by health workers themselves to the lack of personnel, probably has associated causes. The lack of flexibility and an integrated approach in the job descriptions of health workers often hinders this important program activity. Rooms are often available that are not equipped or used for ORT.

- Clinical records of diarrhea often contain insufficient data, especially for hospitalized cases. The collected data are not analyzed or used for action at the peripheral level.

- Finally, after all the discussions with health workers during this survey, it is apparent that the CDD program is often considered to be less attractive than other programs. This results in diminished interest in the program, often accompanied by limited motivation. It is important to consider this factor if one wishes to improve the quality of diarrhea case management of children.

7. RECOMMENDATIONS

Given these results, the team of surveyors and supervisors has made the following recommendations aimed at improving the performance of the CDD program.

1. Training

There can be no correct case management if the level of knowledge of health workers is insufficient. Training must particularly emphasize:

- asking about the presence of blood in the case history,
- a complete physical examination (six signs),
- appropriate use of antibiotics and other medicines,
- advice on ORT to mothers and caretakers,
- adherence to the guidelines for quantities of ORS or IV solutions to be administered for dehydration, and
- clinical practice during training (treatment of children).

Training should be complete and include the subject of health education. Health personnel working in private establishments should participate in training courses organized by SANAS. To optimize the impact of training, there must be regular and systematic follow-up of participants, in order to determine if knowledge learned is applied in practice.

The creation of regional teams of qualified trainers could improve the quality of training at the district level by assuring adherence to national criteria for training. All of the surveyors who participated in this study should be able to profitably use this experience in the training of health workers and CDD supervisors.

To complete the training, CDD program materials such as the brochure or WHO poster on case management, the individual form elaborated by SANAS as well as the new algorithms should be widely distributed and their utilization evaluated.

2. Supervision

More regular supervisory visits are recommended to the extent possible, given logistic constraints. A short training course for supervisors is probably necessary in order for them to know the tasks that need to be accomplished. Use of a checklist would undoubtedly improve the quality of supervision.

3. Provision of ORS

More effective distribution of ORS packets in health facilities is necessary. At the regional levels, the chief medical officers must be particularly advised about this aspect of the program. The provision of supplies to health facilities should benefit from all trips taken by public health vehicles, in order to minimize the transportation constraint. More effective coordination at the regional and district levels should improve the performance of ORS distribution.

4. Provision of ORU material

The provision of ORU equipment and supplies should be developed by means of kits. This is a priority for health facilities that have a room that could be used as an ORU.

5. Revitalize oral rehydration units

The demonstration to health workers of functional, effective, and efficient oral rehydration units could help convince them of the necessity of having an ORU. This is especially true in health centers. Specific information to regional chief medical officers and health center directors from the national level is undoubtedly necessary.

6. Update and revitalize radio/television messages

National and regional agreement on health education messages for diarrhea is desirable. An evaluation of the pertinence and impact of messages could help to better target different groups to be reached.

7. Strengthen ORS/SSS demonstrations

Demonstration sessions for mothers on the preparation of oral rehydration solutions must be more regular if one wants the behavior of mothers at home to correspond well with advice given.

8. Strengthen the system of data collection and use

More specific information on diarrhea could be kept in the records of patient visits, without requiring much of the health worker's time. Systematic noting of the treatment chosen (A, B, or C) as well as the prescription of ORS could be routinely done. Children's weights, when they are weighed, could also be in the record. Information collected monthly on diarrhea should be organized, presented in tables or graphs, and used for local decision making. Sessions on the use of data for decision making should be part of the CDD training program, using data specific to the region where the training is being done.

9. Establish a laboratory database for dysentery

The bacteria that cause dysentery as well as their sensitivity to antibiotics are not well known. Such information from one or two sentinel laboratories would be very useful to monitor the evolution of sensitivity to the recommended antibiotics.

10. Utilization of the survey data and information

The surveyors, who are already supervisors at the regional and district levels, acquired specific competence during this study. They are capable of playing a major role in the activities of the CDD program vis-à-vis both health workers and supervisors in the areas of training, organization, and supervision. The results of this survey should be used both in the short and medium term by all persons involved in the activities of the national CDD program in Senegal. The BASICS project has a specific role to play in assisting SANAS to implement the recommendations.

11. Make the CDD program more attractive

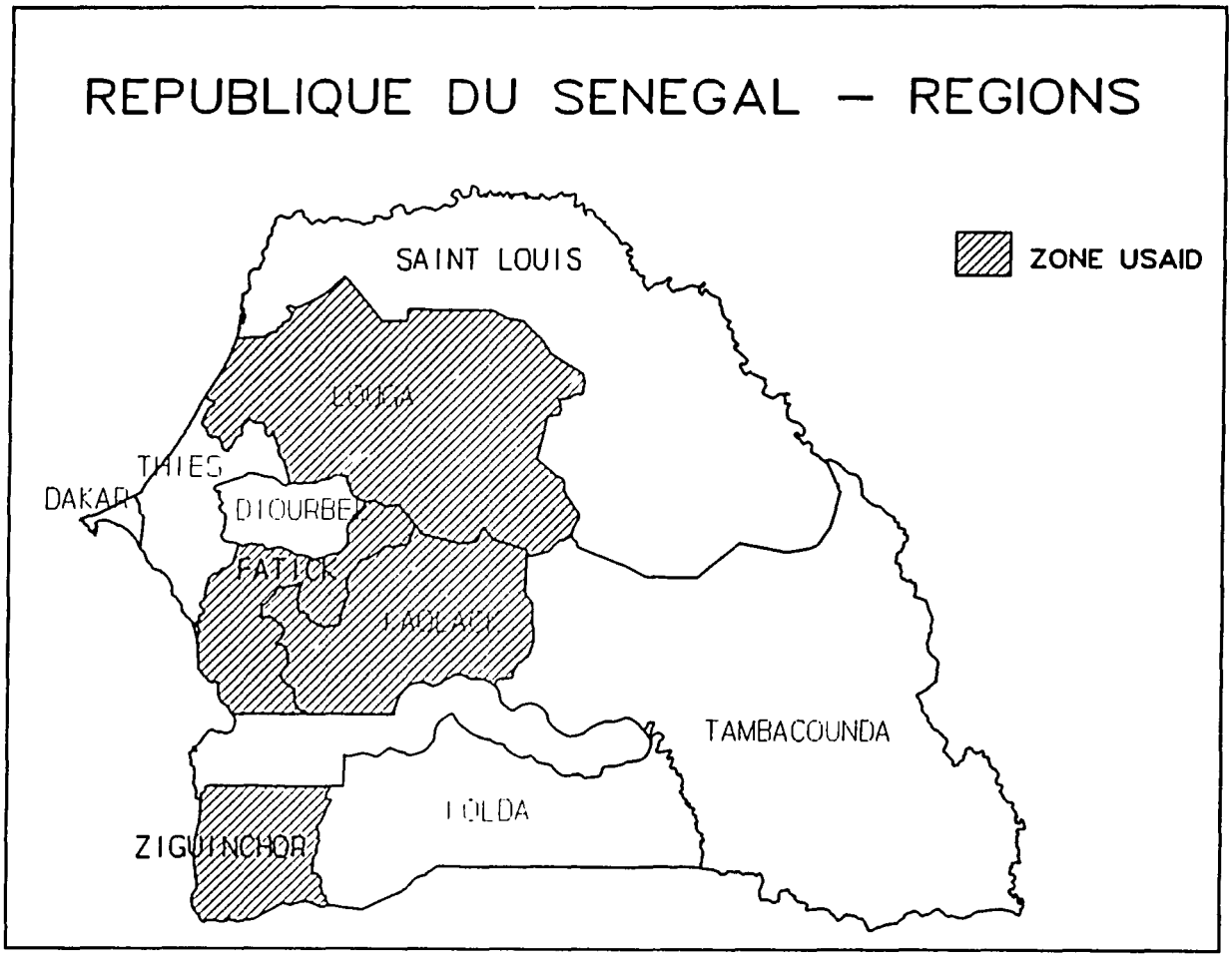
This is a general recommendation. National and regional staff will undoubtedly be able to identify solutions aimed at motivating health workers towards CDD program activities. One of the recommendations proposed by the surveyors was to place the CDD program "monitoring" project. Perhaps this well financed project could contribute to an improvement in the quality of diarrhea case management in Senegal.

APPENDICES

APPENDIX 1

Annexe 1

CARTE DU SENEGAL



APPENDIX 2

Annexe 2

Etablissements de santé visités

Région de FATICK :

CS de Fatick
CS de Dioffior
PS de Diaoulé
PS de Ndiaye Ndiaye
PS de Niakhar
CS de Foundiougne
PS de Koular
PS de Djilor
DPC de Foundiougne
CS de Gossas
CS de Guinguenéo
PS de Ndiago
DPC de Maka Kahone
PS de Mbadakhoune
CS de Sokone
PS de K. Saloum Diané
DPC de Sokone

Région de KAOLACK :

Hôpital de Kaolack
CS de Kaolack
PS de Gandiaye
PS de Ndiedieng
PS de Ndofane
PS de Ndorong
CS de Kaffrine
PS de Birkelane
PS de Kathiotte
CS de Koungheul
PS de Kourdane
PS de Maka Yopp
CS de Nioro du Rip
PS de Paoskoto
PS de Prokhane

Région de LOUGA

Hôpital de Louga
CS de Louga
PS de Ndiagne
PS de Coky
PMI de Louga
CS de Dahra
PS de Mboula
CS de Darou Mousty
PS de Darou Wakhab
CS de Kebemer
PS de Ndande
PS de Gueoul
PS de Sagatta Nguet
CS de Lingere
PS de Thiarny
PS de Barkedji

Région de ZIGUINCHOR

CS de Ziguinchor
PS de Lyndiane
PS de Santhiaba
DPC de Tilène
CS de Bignona
PS de Badiana
PS de Elana
PS de Kafountine
PS de Niankite
PS de Thionkessyl
CS de Oussouye
DPC de Mlomp
PS de Boucotte

APPENDIX 3

Annexe 3

Code _ _ _ _ _/_ _

Questionnaire 1: PRISE EN CHARGE D'UN ENFANT DIARRHEIQUE

1

Initiales de l'agent de santé: _ _ Numéro: 9_
Type d'agent de santé: _____
Formé en LMD (Questionnaire 3): [ ] Oui [ ] Non
Supervisé en LMD: [ ] Oui [ ] Non
Nom de l'Enfant:_____ Numéro de l'enfant:_____ Age:____Mois(0-59)
Nom de l'établissement de santé:_____Numéro: __ __ __ __
Type:_____ Public [ ] Privé [ ]
District:_____ Région:_____ Date: _ _ /_ _ / _ _
Enquêteur:_ _

Cocher ou écrire lisiblement suivant le cas. Rappeler à l'agent de santé qu'il ne doit pas hésiter à exprimer verbalement ses pensées

1. INTERROGATOIRE:	EVALUE? Non	Oui	RÉPONSES DE L'ACCOMPAGNANT		NSP
1.1 Début de l'épisode?	[ ]	[ ]	[ ] ≤14 jours	[ ] >14 jours	[ ]
1.2 Sang dans les selles?	[ ]	[ ]	[ ] Non	[ ] Oui	[ ]
1.3 L'enfant a-t-il une autre maladie	[ ]	[ ]	[ ]Non Maladie:_____	[ ] Oui	[ ]

2. EXAMEN CLINIQUE: (Demandez à l'agent de santé de décrire à voix haute ce qu'il fait)

	NON	OUI	A	B	C	NSP
2.1 Etat général	[ ]	[ ]	[ ]Normal éveillé	[ ]Agité irritable	[ ]Léthargique ou inconscient apathique	[ ]
2.2 Yeux?	[ ]	[ ]	[ ]Normaux	[ ]Enfoncés	[ ]Très enfoncés et secs	[ ]
2.3 Larmes, si pleurs?	[ ]	[ ]	[ ]Présentes	[ ]Absentes		[ ]
2.4 Bouche/langue?	[ ]	[ ]	[ ]Humides	[ ]Sèches	[ ]Très sèches	[ ]
2.5 La soif?	[ ]	[ ]	[ ]Normale	[ ]Augmentée	[ ]Incapable de boire	[ ]
2.6 Pli cutané s'efface?	[ ]	[ ]	[ ]Rapidement	[ ]lentement	[ ]Très lentement (> 2 sec.)	[ ]
3. La température	[ ]	[ ]	[ ]Normale	[ ]Fièvre		[ ]
4. Le poids mesuré	[ ]	[ ]	[ ]Correctement	[ ]Mal	[ ]Pas de balance	[ ]
5. Malnutrition	[ ]	[ ]	[ ]Absente	[ ]légère	[ ]grave	[ ]

6. Conclusion de l'agent de Santé sur le DEGRE DE DESHYDRATATION [ ] [ ] [ ]A Pas de signes [ ]B avec déshydratation [ ]C Déshydratation grave [ ]

[A REMPLIR APRES LE COMMENCEMENT DU TRAITEMENT]

7. TRAITEMENT de l'agent de santé
   1[ ] A domicile sans conseils sur SRO ou solution domestique
   A 2[ ] A domicile avec conseils sur SRO ou solution domestique
   A 3[ ] A domicile avec sachet SRO
   B 4[ ] Traitement avec SRO au centre de santé
   C 5[ ] Admission ou transfert pour la réhydration par IV
   6[ ] Admission pour autre maladie, spécifiez:_____

[Après l'examen de l'enfant par l'enquêteur - Voir Questionnaire 2]

8. Conclusion de l'enquêteur sur le DEGRE DE DESHYDRATATION (Questionnaire 2, art. 3)
   A [ ] Pas de signes de déshydratation
   B [ ] Déshydratation modérée
   C [ ] Déshydratation grave

9 ACCORD

9.1 Le degré de déshydratation selon Agent de santé (Questionnaire. 1, art. 6) concorde avec celui de l'enquêteur (Questionnaire 2, art. 3)? [ ]Non [ ]Oui

9.2 Le traitement prescrit par l'AS (Questionnaire 1, art. 7) concorde avec celui de l'enquêteur? (Questionnaire 2, art. 4)? [ ]Non [ ]Oui

9.3 Conclusion de l'enquêteur: L'enfant a-t-il la dysenterie (Questionnaire 2, art. 5)? [ ]Non [ ]Oui

TRAITEMENT

Antibiotiques et autres médicaments

10. Liste de tous les médicaments prescrits_____ _____
_____ _____ _____

Classer chaque médicament administré pour la diarrhée:

10.1 [ ]Antibiotique? Lequel?_____Raison:_____

10.2 [ ]Antiparasitaire? (Autre que médicament antipaludéen)
Lequel?_____Raison:_____

10.3 [ ]Antidiarrhéique Lequel?_____Raison:_____

10.4 [ ]Antivomissement Lequel?_____Raison:_____

10.5 [ ]Autre médicament Lequel?_____Raison:_____

11. Les SRO ou solutions "maison" ont-elles été prescrites pour le traitement de l'enfant? (Si Non, passer à l'art. 13) [ ]Non [ ] Oui

12. Si Oui, des instructions spécifiques ont-elles été données pour l'emploi de SRO et/ou de la solution domestique?
   [ ] Pas d'instructions - passer à l'art. 13
   [ ] Non, mais l'accompagnant a dit à l'AS qu'il sait préparer les SRO/SSS déjà (Passer à l'art. 12.5)
   [ ] Oui; [ ] SRO [ ] SSS
   Si Oui, en donnant des instructions sur les SRO, est-ce que l'agent de santé:

12.1 Explique que les SRO remplacent les pertes de liquide? [ ]Non [ ]Oui

12.2 Explique la quantité de liquides à donner? [ ]Non [ ]Oui
* En cas de diarrhée sans signes de déshydratation
[Autant que l'enfant en voudra ou en cas de diarrhée après chaque selle:
OU

* En cas de déshydratation:
Une cuillérée chaque 1-2 minutes pendant les premières 4-6 heures ou une petite quantité très fréquemment]

12.3 Donne des instructions sur la préparation de SRO? [ ]Non [ ]Oui
[Mélanger les SRO dans un litre d'eau propre]

12.4 Montre comment préparer la solution SRO: [ ]Non [ ]Oui

12.5 Vérifie que l'acccompagnant comprend les instructions? (Demande à l'accompagnant de répéter les instructions] [ ]Non [ ]Oui

12.6 L'accompagnant ou la mère reçoivent-ils des instructions correctes sur l'utilisation des SRO? Nombre de "Oui" cochés de 12.1 à 12.5):__ Acceptable, au moins 3 [ ]Non [ ]Oui

<u>Conseils donnés à la mère ou l'accompagnant</u>

13 L'accompagnant a-t-il reçu les informations et/ou l'agent de santé vérifie-t-il que la personne comprend les <u>3 règles sur la prise en charge à domicile de la diarrhée</u>?

13.1 Le besoin de donner plus de liquides ? [ ]Non [ ]Oui

13.2 La nécessité de continuer à donner à manger? [ ]Non [ ]Oui

13.3 Les signes de danger indiquant quand il faut ramener l'enfant à l'établissement de santé ? (Cocher toute réponse mentionnée)

a. Beaucoup de selles liquides [ ]
b. Vomissements répétés [ ]
c. Soif intense [ ]
d. Ne mange pas bien; ne boit pas bien [ ]
e. Fièvre [ ]
f. Sang dans les selles [ ]
g. Ne s'améliore pas au bout de 3 jours [ ]
h. autre [ ]
(_____)

13.3 Nombre de signes cochés de a-g:____. [Acceptable, au moins 2] [ ]Non [ ]Oui

13.4 L'accompagnant ou la mère reçoivent-ils des conseils corrects ? Les trois réponses ci-dessus (13.1 à 13.3) ont-elles toutes été cochées "OUI" [ ]Non [ ]Oui

SI PLAN A (PAS DE DESHYDRATATION), FIN DU QUESTIONNAIRE

Traitement administré à l'établissement de santé (PLAN B OU PLAN C)

14 Le traitement par SRO est-il administré à l'enfant dans l'établissement de santé?
[ ]Non [ ]Oui, Heure de début:_____

Si Non, passer à l'article 15

14.1 Si Oui, la solution SRO a-t-elle été préparée correctement?
[SRO bien mélangé dans un litre d'eau propre] [ ]Non [ ]Oui [ ]NSP

14.2 L'administration de la solution SRO commence-t-elle dans les 30 minutes suivant l'examen de l'enfant? [ ]Non [ ]Oui [ ]NSP

14.3 Quantité de SRO prescrite:_____ml. [ ]Quantité pas spécifiée

14.4 La quantité correcte de SRO a-t-elle été prescrite? [ ]Non [ ]Oui [ ]NSP
(Quantité correcte pour l'âge ou le poids de l'enfant = _____ml.)

15 Le traitement par perfusion I.V. est-il administré dans l'établissement de santé?
[ ]Non [ ]Oui, Heure de début:_____

Si Non, passer à 16

15.1 Si Oui, quelle solution I.V. est-elle administrée dans la formation sanitaire?
Le soluté est-il approprié? [ ]Non [ ]Oui [ ]NSP
[Lactate de Ringer ou Glucosé 5% + NaCl + KCl ou sérum salé isotonique 9 pour 1000]

15.2 L'administration d'une perfusion commence-t-elle dans 30 minutes ou moins après l'examen de l'enfant? [ ]Non [ ]Oui [ ]NSP

15.3 Quelle quantité de solution IV a été prescrite et pour combien de temps
Quantité:_____Temps:_____ [ ]NSP

15.4 La quantité de perfusion prescrite a-t-elle été correcte?
[ ]Non [ ]Oui [ ]NSP
(Quantité correcte suivant l'âge ou le poids de l'enfant = _____ml.)

16. Evaluation et suivi pour l'administration de SRO ou de solution IV
[Suivi réalisé deux heures après le début l'administration des SRO ou IV]
Heure de suivi:_____H:Min

* Pour les cas avec administration de SRO

16.1 Quantité de solution SRO que l'enfant a bu:_____ ml [ ]NSP

16.2 La quantité bue, a-t-elle été adéquate? [ ]Non [ ]Oui
(Adéquat signifie au moins au moins 50% du volume, nécessaire durant les 4 premières heures = _____ml.)

DOSE DE LA SOLUTION SRO A ADMINISTRER AU COURS DES 4 A 6 PREMIERES HEURES:

AGE	<4 MOIS	4-11 MOIS	12-23 MOIS	2-4 ANS	5-14 ANS	15+ ANS
POIDS	<5 KG.	5-7.9 KG.	8-10.9 KG.	11-15.9 KG.	16-29.9 KG.	30+ KG.
SRO EN ML.	200-400	400-600	600-800	800-1200	1200-2200	2200-4000
EN UNITE LOCALE DE MESURE	1 POT de 400ml					

* Pour un cas traité avec une perfusion

16.3 Quantité de perfusion que l'enfant a reçu: _____ml. [ ]NSP

16.4 Le volume de perfusion reçu a-t-il été adéquat? [ ]Non [ ]Oui
(Adéquat signifie au moins 44 ml/kg pour les enfants de moins de 12 mois et au moins 72 ml/kg pour les enfants plus âgés: _____ml.)

17 Selon les conclusions de l'enquêteur (Quest. 2 art. 3), ce cas est
[ ]Plan B [ ]Plan C

17.1 Le plan de traitement est-il choisi correctement? (Art. 9.2)
[ ]Non [ ]Oui

17.2 Traitement a-t-il débuté en moins de 30 mn? (14.2 ou 15.2)
[ ]Non [ ]Oui

17.3 Le traitement progresse-t-il de façon satisfaisante? (16.2 ou 16.4)
[ ]Non [ ]Oui

17.4 L'enfant a-t-il été correctement réhydraté?
(Art. 17.1, 17.2, 17.3 tous cochés "OUI")]Non [ ]Oui

ADMINISTRER LE SOLUTE I.V. COMME SUIT: *

	D'ABORD, DONNER 30 ml/Kg	ENSUITE, DONNER 70 ml/Kg
Age		
Inférieur à 12 Mois	1 h	5 heures
12 mois et plus	30 mn	2 h 30mn

Code _ _ _ _ /_ _

Questionnaire 2: EXAMEN DE L'ENFANT PAR L'ENQUETEUR
ENTRETIEN AVEC LA MERE OU L'ACCOMPAGNANT

Nom de l'Enfant:_____ Age:____mois Numéro de l'enfant: 2 _ _

Nom de l'établissement de santé:_____Numéro: __ __ __ __

Type:_____ Public [ ] Privé [ ]

District:_____ Région:_____ Date: _ _ /_ _ / _ _

Numéro de l'enquêteur:_ _

Première partie: EXAMEN DE L'ENFANT PAR L'ENQUETEUR

1. INTERROGATOIRE: RÉPONSES DE LA MERE OU DE L'ACCOMPAGNANT

1.1 Début de l'épisode? [ ] ≤ 14 jours [ ] >14 jours

1.2 Sang dans les selles? [ ] Non [ ] Oui

1.3 L'enfant a-t-il une autre maladie [ ] Non [ ] Oui
Maladie:_____

2. EXAMEN CLINIQUE (* = SIGNES CLES)

	A	B	C
* 2.1 Etat général	[ ]Normal éveillé	[ ]Agité irritable	[ ]Léthargique, inconscient ou apathique
2.2 Yeux?	[ ]Normaux	[ ]Enfoncés	[ ]Très enfoncés et secs
2.3 Larmes, si pleurs?	[ ]Présentes	[ ]Absentes	[ ]NSP
2.4 Bouche/langue?	[ ]Humides	[ ]Sèches	[ ]Très sèches
* 2.5 La soif?	[ ]Normale	[ ]Augmentée	[ ]Incapable de boire
* 2.6 Pli cutané s'efface	[ ]Rapidement	[ ]Lentement	[ ]Très lentement(> 2 sec)

2.7 Malnutrition grave (à l'inspection) [ ]Non [ ]Oui

2.8 Autre Maladie? [ ]Non [ ]Oui, Spécifier:_____

(BASEZ VOTRE REPONSE SUR LES ARTICLES 2.1 - 2.6)

3. Enquêteur, quelle est votre conclusion sur le degré de déshydratation?
   A [ ] Pas de déshydratation
   B [ ] Déshydratation modérée (DEUX SIGNES, DONT AU MOINS UN SIGNE CLE)
   c [ ] Déshydratation grave
   ----> Quest. 1 art. 8

4. Enquêteur, quel est votre choix de Traitement de la diarrhée/déshydrat.
   A [ ] A domicile avec conseils sur SRO et/ou solution domestique
   B [ ] Traitement avec SRO dans l'établissement de santé
   C [ ] Admission ou transfert pour la réhydratation par voie IV
   [ ] Admission pour une autre maladie, spécifiez:_____
   ----> Quest. 1 art. 9.2 et 17 (Si plan B ou C)

5. Cet enfant a-t-il de la dysentérie? [ ] Non [ ] Oui
   (Sang dans les selles dans l'art. 1.2 -----> Quest. 1, art. 9.3

Deuxième partie. ENTRETIEN AVEC LA MERE OU L'ACCOMPAGNANT

6.1 Quand un enfant a la diarrhée, faut-il lui donner à boire:
Beaucoup moins de liquide [ ]
Autant de liquide [ ]
Plus de liquide [ ]

(Réponse acceptable: Plus de liquide) [ ]Non [ ]Oui

6.2 Quand un enfant a la diarrhée, faut-il lui donner à manger:
Beaucoup moins de nourriture [ ]
Autant de nourriture [ ]
Plus de nourriture [ ]

(Réponse acceptable: Autant ou plus de nourriture) [ ]Non [ ]Oui

6.3 Quels signes indiqueraient qu'il faut ramener l'enfant à l'établissement de santé? (Ne donnez pas de suggestions. Cochez toutes les réponses)

a. Selles très liquides [ ]
b. Vomissements répétés [ ]
c. Soif intense [ ]
d. Ne mange/boit pas bien [ ]
e. Fièvre [ ]
f. Sang dans les selles [ ]
g. Ne s'améliore pas au bout de 3 jours [ ]
h. Autre: [ ]
(_____)

6.3 Nombre de signes cochées de a-g:__.[Acceptable, au moins 2][ ]Non [ ]Oui

6.4 Est-ce que l'accompagnant connaît les trois règles de la prise en charge à domicile de l'enfant diarrhéique?
Art. 6.1, 6.2 et 6.3 cochés tous les 3 "OUI": [ ]Non [ ]Oui

7. Pendant la consultation vous a-t-on donné des instructions sur l'utilisation des SRO ou des solutions "domestiques" recommandées (SSS)?
[ ]Non [ ]Oui

(Si Oui ou Non, posez les questions 7.1-7.3)

7.1 Que savez-vous sur la fréquence et la quantité de SRO à administrer?
[Réponse acceptable:
* Quand il n'y a pas de signe de déshydratation:
Autant que l'enfant en voudra ou en cas de diarrhée, donner après chaque selle

OU

* Quand il y a des signes de déshydratation:
Une cuillérée toutes les 1-2 mn pendant les premières 4-6 h ou une petite quantité très fréquemment]:
[ ]Non [ ]Oui

7.2 Que savez-vous sur la façon de préparer une solution SRO ou SSS?

Acceptable:

Pour SRO: Mélanger le sachet dans un litre d'eau propre
Pour SSS: Mélanger 8 morceaux de sucre et une cuillérée à café rase de sel dans un litre d'eau propre

[ ]Non [ ]Oui

7.3 Où avez-vous appris ces informations?

[ ] Agent de santé
[ ] Séance d'éducation pour la santé
[ ] Radio, Télévision
[ ] Autre: _____

Enquêteur: Saisissez cette occasion pour corriger tous les problèmes cruciaux que vous avez identifiés dans la prise en charge des cas.

1. Corrigez toute information érronée ou inexacte de l'accompagnant. Puis assurez-vous qu'elle comprend.

2. Si une erreur dans la classification ou le traitement nuit à l'enfant , vérifiez qu'il reçoit le traitement approprié.

Code: __ __ __ __/__ __

Questionnaire 3: ENTRETIEN AVEC LE PERSONNEL DE SANTE

Nom de l'établissement _____ Numéro de l'enquêteur _____

Type _____ [ ] Public [ ] Privé

District _____ Région _____ Date ____/____/____

Initiales de l'agent de santé ___ ___ Numéro ___ ___

Type d'agent de santé _____ Prise en charge de cas observée? Non [] Oui

Numéro (s) de l'enfant ou des enfants _____

CONNAISSANCES DE LA PRISE EN CHARGE D'UN ENFANT DIARRHEIQUE

[Enquêteur: Posez à l'agent de santé les questions suivantes, telles qu'elles sont rédigées. Ne suggérez rien. Cochez les réponses mentionnées.]

1. Si un enfant a de la diarrhée, quelles questions posez-vous sur la maladie ?

1.1 Quand l'épisode a-t-il commencé []Non []Oui

1.2 Y a-t-il du sang dans les selles []Non []Oui

1.3 L'enfant souffre-t-il d'une autre maladie []Non []Oui

2. Que recherchez-vous quand vous examinez l'enfant pour décider s'il est déshydraté? (Plan B)

a. Etat général de l'enfant (Agité, irritable) []Non []Oui
b. Yeux enfoncés. []Non []Oui
c. Présence de larmes. []Non []Oui
d. Bouche et langues sèches. []Non []Oui
e. Soif, capable de boire. []Non []Oui
f. Pli cutané anormal. []Non []Oui

2.1 Nombre d'éléments cochés "OUI" dans a-f: _____
(Acceptable = au moins 4) []Non []Oui

3. Est-ce que l'agent de santé sait comment évaluer correctement un patient?
(Questions 1.1, 1.2 et 2.1 toutes cochées "OUI") []Non []Oui

4 Comment traiteriez-vous un enfant diarrhéique et modérement déshydraté ?
(Cochez une seule réponse. Si la réponse = "Je le garde ici", faire précisez "pour lui faire quoi")

1 [ ] A domicile avec ou sans conseils sur les SRO et/ou solution domestique ?
2 [ ] Traitement avec SRO à l'établissement de santé
3 [ ] Admission ou transfert pour réhydratation IV
4 [ ] Ne sait pas

4.1 Acceptable: (Seulement réponse 2)	[]Non []Oui

4.2 Combien de SRO devriez-vous donner à un bébé d'un an pesant 7 kg. avec une déshydratation modérée, pour les premières 4 à 6 heures? (Si l'agent se réfère habituellement à un tableau, laissez-le faire)
1 [ ] 400-600 ml
2 [ ] Autant que l'enfant acceptera
3 [ ] Autre volume, Spécifier:_____
4 [ ] Ne sait pas

4.2 Acceptable: (Seulement réponse 1)	[]Non []Oui

4.3 Comment traiteriez-vous un enfant souffrant d'une sévère déshydratation?
(Si réponse = Sonde nasogastrique, cochez la case 4 et écrivez à droite, "Sonde N-G")
1 [ ] A domicile avec SRO
2 [ ] Traitement avec SRO à l'établissement de santé
3 [ ] Transfert pour réhydratation IV, ± SRO
4 [ ] Admission pour réhydratation IV, ± SRO _____
5 [ ] Ne sait pas

4.3 Acceptable: (Réponse 3 ou 4)	[]Non []Oui

5. Etes-vous habilité à décider quelle quantité de solution IV à administrer à un enfant déshydraté? []Non []Oui

Si NON, passer à l'art. 6

5.1 Si OUI: Quelle quantité de solution IV administreriez-vous à un enfant de 14 mois pesant 10 kg et souffrant d'une déshydratation sévère pendant les trois premières heures du traitement? (Si l'agent se réfère habituellement à un tableau, laissez-le faire)
1 [ ] 1.000 ml (de 950 à 1050)
2 [ ] Autre volume:_____
3 [ ] Ne sait pas

5.1 Acceptable: (Seulement réponse 1)	[]Non []Oui

6. Etes-vous habilité à prescrire des antibiotiques ou d'autres médicaments pour la diarrhée? []Non []Oui

Si NON, Passez à l'art. 7

6.1 Si OUI, pour quels cas de diarrhée donnez-vous des antibiotiques? (Cocher toutes les réponses mentionnées)

1 [ ] Diarrhée avec du sang
2 [ ] Choléra soupçonné
3 [ ] Autres maladies nécessitant des antibiotiques
4 [ ] Tous les autres cas de diarrhée, spécifiez:_____

6.1 Acceptable (Doit comprendre la réponse 1 mais pas la réponse 4)	[]Non []Oui

6.2.a Quel antibiotique administrez-vous pour la diarrhée fébrile avec du sang?

_____ _____

6.2.a Acceptable: (L'une des recommandations suivantes du programme national. Cotrimoxazole-Bactrim, Ampicilline-Totapen, Amoxicilline-Hicilin)	[]Non []Oui

6.2.b Quel médicament administrez-vous pour la diarrhée sanglante, sans fièvre?

_____ _____

6.2.b Acceptable: (Métronidazole - Flagyl) []Non []Oui

6.3 Administrez-vous d'autres médicaments ou traitements pour la diarrhée? []Non []Oui

Si NON, passer à l'art. 7

6.4 Si OUI: Quels autres médicaments administrez-vous et pour quelles raisons?

a. Médicament ou traitement:_____Raison:_____
b. Médicament ou traitement:_____Raison:_____
c. Médicament ou traitement:_____Raison:_____
d. Médicament ou traitement:_____Raison:_____
e. Médicament ou traitement:_____Raison:_____

(POUR LES QUESTIONS 7 ET 8: Si l'agent de santé mentionne "signes de danger" ou "J'explique quelle quantité de SRO administrer" EN GENERAL SANS SPECIFIER lesquels ou quelle quantité, LAISSER continuer l'AS jusqu'à la fin de sa réponse, puis revenir en demandant "quels signes de danger ou quelle quantité de SRO".)

7. Quels conseils donnez-vous à la mère ou à l'accompagnant lorsque vous voyez un enfant diarrhéique sans signes de déshydratation? (Ne rien suggérer)

7.1 Donner plus de liquides []Non []Oui

7.2 Continuer l'alimentation habituelle []Non []Oui

7.3 Revenir voir l'agent de santé si l'enfant présente des symptômes de danger. (Cochez toutes les réponses mentionnées)

a. Beaucoup de selles liquides []
b. Vomissements répétés []
c. Soif augmentée []
d. Ne mange/boit pas bien []
e. Fièvre []
f. Selles avec du sang []
g. Ne s'améliore pas []

7.3 Nombre de cases cochées de a-g:____.
[Acceptable: au moins 2] []Non []Oui

7.4 L'agent de santé connaît-il les trois règles de la prise en en charge de la diarrhée à domicile?
(7.1, 7.2 et 7.3 ci-dessus tous cochés "OUI") []Non []Oui

8. Quelles instructions donnez-vous généralement à la mère ou à l'accompagnant en ce qui concerne l'utilisation des SRO? (Ne rien suggérer; cocher toutes les réponses mentionnées)

8.1 Explique que les SRO remplacent les pertes de liquide? []Non []Oui

8.2 Explique et/ou démontre combien administrer?

[Autant que l'enfant en acceptera.

Pour la diarrhée - après chaque selle
ou
Avec déshydratation:
Une cuillérée toutes les 1-2 minutes pendant les premières 4-6 heures ou une petite quantité très fréquemment] []Non []Oui

8.3 Donne des instructions sur la façon de préparer la solution de SRO? (Mélanger les SRO avec un litre d'eau propre) []Non []Oui

9. Comment les instructions pour les SRO sont-elles données <u>habituellement</u>?

1 [ ] Feuille d'instructions à emporter chez soi sans explication
2 [ ] Instructions orales sans démonstration
3 [ ] Démonstration par l'agent de santé
4 [ ] La mère ou l'accompagnant participe à la démonstration

9.1 Pour les réponses 2, 3, ou 4 les instructions sont-elles données:
a. Individuellement [ ]
b. En petits groupes [ ]

FORMATION POUR LA PRISE EN CHARGE DE CAS

10. Avez-vous jamais participé à un cours de prise en charge de cas de diarrhée? []Non []Oui
(Si NON, passez à l'art. 11)

10.1 Si Oui, de quand date votre dernière formation dans ce domaine?
[] Il y a 3 ans ou plus
[] Il y a moins de 3 ans

10.2 Pendant la formation, avez-vous traité des enfants ayant la diarrhée?
[]Oui: combien d'enfants?_____
[]Non, Si Non, Vidéo vue? [ ]Non [ ]Oui

10.3 Combien de jours a duré ce cours?_____ Jours de pratique:_____

10.4 Exigence minimale satisfaite ci-dessus pour la formation en LMD
Acceptable: Formation il y a moins de 3 ans, au moins un enfant traité ou vidéo vue, et au moins 5 jours de formation dont 2 jours de pratique. []Non []Oui

SUPERVISION POUR LA PRISE EN CHARGE DE CAS

11. Qui est votre superviseur immédiat?
Titre: (Médecin, technicien supérieur, sage-femme, etc.) _____

11.1 Votre superviseur, travaille-t-il généralement dans cet établissement?
[ ] Dans cet établissement
[ ] A un autre niveau, spécifier:_____

11.2 Combien de réunions avez-vous eu avec votre superviseur au cours des trois derniers mois?
[ ] Aucune
[ ] Une
[ ] Deux-trois
[ ] Plus de trois, spécifier le nombre:_____

11.3 Veuillez décrire ce que votre superviseur a fait pendant sa dernière visite supervision? (Ne rien suggérer et cocher toutes les réponses mentionnées)

a. Observation de la prise en charge de cas []
b. Rétro-informations pour la prise en charge de cas []
c. Demandé s'il y avait des problèmes concernant la prestation correcte de la prise en charge des cas []
d. Examiné les dossiers []
e. Inspecté les fournitures et les locaux []
f. Autre, spécifier:_____

11.4 Norme minimum satisfaite ci-dessus pour la supervision en LMD
Acceptable: 2 réponses de a-e plus 1 visite au cours de 3 derniers mois []Non []Oui

12. Quels sont les obstacles ou difficultés que vous rencontrez lors de la prise en charge d'enfants avec la diarrhée: (Cocher toutes les réponses mentionnées, ou inscrire les commentaires)

a. Les mères ou accompagnants exigent des médicaments []
b. Les mères ou accompagnants ne restent pas []
c. Attitudes négatives des mères ou des accompagnants vis-à-vis des SRO []
d. Pas assez de SRO []
e. Pas assez d'antibiotiques []
f. Pas assez d'ustensiles, d'équipements TRO []
g. Pas de place pour la TRO []
h. Pas assez de personnel []
i. Les enfants n'aiment pas les SRO []
j. Trop de malades []
k. Manque de formation []
l. Manque de supervision []
m. Divers: _____
n. Divers: _____

13. Combien de malades voyez-vous chaque jour? (pour quelque raison que ce soit) _____ malades

Enquêteur: Ajoutez vos commentaires sur le volume de travail, sur la base de vos observations, du registre ou d'autres sources.

_____
_____
_____

Code:__ __ __ __

Questionnaire 4: EVALUATION DES LOCAUX ET DES FOURNITURES 4

Nom de l'établissement de santé_____

Type_____ []Public []Privé

District_____ Date___/___/___ Numéro de l'enquêteur____

Région_____

Pour les questions de 1.1 à 1.9, demandez au responsable médical

1. PERSONNEL CLINIQUE	Personnel chargé des cas de diarrhée	Personnel ayant reçu une formation dans ce domaine
1.1 Pédiatres	_____	_____
1.2 Autres médecins	_____	_____
1.3 Infirmiers	_____	_____
1.4 Sage-femmes	_____	_____
1.5 _____	_____	_____
1.6 _____	_____	_____
1.7 _____	_____	_____
1.6 Total	b._____	c._____

Pourcent: c/b x 100:_____%

1.7 Y a-t-il suffisamment d'agents de santé dans cet établissement pour s'occuper tous les cas de diarrhée? (Ne rien suggérer)
[]Jamais assez
[]Pas assez pendant certaines saisons
[]Toujours assez

1.8 Cet établissement de santé a-t-il au moins un agent de santé chargé des cas de diarrhée qui a reçu une formation pour la prise en charge de tels cas?
[]Non. []Oui

AU NIVEAU HOPITAL ET CENTRE DE SANTE (SI POSTE, SAUTER CETTE QUESTION)

1.9 Y a-t-il un superviseur responsable de la prise en charge des cas de diarrhée dans l'établissement? []Non []Oui
Si OUI:
a. Le superviseur a-t-il reçu une formation pour la prise en charge des cas de diarrhée? []Non []Oui
b. Le superviseur a-t-il reçu une formation en techniques de supervision? []Non []Oui
c. Le superviseur a-t-il reçu une formation dans les deux domaines? (a et b cochés "OUI") []Non []Oui
(ALLER A L'ART. 2)

AU NIVEAU DU POSTE DE SANTE

1.9 Combien de reunions sur la LMD avez-vous eu avec votre superviseur au cours des 3 derniers mois?
[ ]Aucune
[ ]Une
[ ]Deux-trois
[ ]Plus de trois

---

2. ARCHIVES - REGISTRES DE CET ETABLISSEMENT

Cet établissement de santé conserve-t-il des archives concernant:

2.1 Les visites mensuelles des enfants de moins de cinq ans ayant de la diarrhée []Non []Oui
Si OUI, combien de cas de diarrhee se trouve dans le dernier rapport disponible? CAS:_____/MOIS

2.2 Les visites mensuelles de tous les enfants de moins de cinq ans pour les causes quelconques? []Non []Oui
Si OUI, combien de cas de diarrhee se trouve dans le dernier rapport disponible? CAS:_____/MOIS

2.3 L'établissement a-t-il des graphiques ou statistiques disponibles en ce qui concerne la diarrhée? []Non []Oui
Si OUI, préciser:_____

[Répondre aux autres questions en utilisant une combinaison d'observation, d'entretiens et de discussions]

3. LOCAUX

3.1 Y a-t-il un endroit séparé pour la TRO? (Un coin TRO pour permettre aux mères de préparer et d'administrer la TRO aux enfants) []Non []Oui

3.2 Si NON, faites des commentaires sur ce qui pourrait être utilisé pour créer un coin TRO (p. ex., espace, mobilier): PASSER A L'ART. 4

_____

_____

_____

3.3 Si OUI:

a. L'espace pour le traitement est-il adéquat? (Pour plusieurs mères, enfants, agents de santé et équipements) []Non []Oui

b. Le mobilier est-il suffisant pour la TRO? (Chaises, table, étagères pour les fournitures) []Non []Oui

c. Existe-t-il un endroit où les mères ou accompagnants peuvent se laver les mains? []Non []Oui

d. Y a-t-il des toilettes ou latrines fonctionnelles pour les malades?

[]Non []Oui

---

4. EQUIPEMENTS

4.1 L'établissement peut-il vous montrer des directives écrites pour l'évaluation e le traitement de la diarrhée et de la déshydratation? (p. ex., tableau de prise en charge de cas de diarrhée) []Non []Oui

4.2 L'établissement a-t-il déjà été en rupture de stock de tasses, de pots, de cuillères ou d'instruments de mélange ou de mesure?
- []Toujours ou souvent
- []Parfois
- []Jamais
- [] NA, l'établissement n'administre pas de SRO.

4.3 L'établissement a-t-il déjà été en rupture de stock de solutions IV et de nécessaires de perfusion?
- []Toujours ou souvent
- []Parfois
- []Jamais
- [] NA, l'établissement n'administre pas de IV.

4.4 Y a-t-il une balance en état de fonctionnement dans l'aire d'évaluation pour le patients ayant de la diarrhée? []Non []Oui

4.5 Les SRO sont-ils entreposés dans de bonnes conditions? (propres, secs, organisés; vérifier l'état des sels SRO dans quelques sachets) []Non []Oui

---

5. MEDICAMENTS	En stock maintenant	Pendant les 3 derniers mois		
		En stock toujours	Pas en stock 1 fois	Pas en stock >1 fois
5.1 Sachet des SRO ou ingrédients sel, sucre	[]	[]	[]	[]
5.2 Médicaments pour diarrhée avec sang:				
COTRIMOXAZOLE (BACTRIM)	[]	[]	[]	[]
METRONIDAZOLE (FLAGYL)	[]	[]	[]	[]
AMPICILLINE (TOTAPEN)	[]	[]	[]	[]
AMOXICILLINE(HICONCIL)	[]	[]	[]	[]

5.3 Quelles sont les disponibilités et les habitudes d'emploi pour la diarrhée des médicaments suivants? (p. ex., non disponibles, ou facilement disponibles, rarement utilisés ou fréquemment utilisés)?

a. Antidiarrhéiques (Enumérer):_____
   Disponibilité/Utilisation:_____/_____

b. Antibiotiques (Enumérer):_____
   Disponibilité/Utilisation:_____/_____

c. Autres (Enumérer):_____
   Disponibilité/Utilisation:_____/_____

5.4 Quels problèmes existent en ce qui concerne la distribution et/ou l'entreposage des médicaments?

_____

6. EDUCATION POUR LA SANTE (POUR LES MERES OU ACCOMPAGNANTS)

6.1 L'établissement organise-t-il périodiquement des séances d'éducation pour la santé comprenant des informations sur la diarrhée?
[]Non []Oui, à quels intervalles?_____

6.2 Des affiches d'éducation pour la santé sur la prévention et le traitement de la diarrhée sont-elles visibles? []Non []Oui

6.3 D'autres documents d'éducation de santé sont-ils disponibles pour enseigner la prévention et le traitement de la diarrhée? (Au moins un jeu, utilisable pour u petit groupe). []Non []Oui

Si OUI, sont-ils:

a. Corrects sur le plan technique? []Non []Oui
b. Appropriés pour la population?
(Langue, images, symboles, niveau d'alphabétisation) []Non []Oui

6.4 Autres commentaires sur l'éducation de santé (Problèmes, besoins):
_____
_____

7. TRANSFERTS

7.1 Est-ce que l'établissement transfère les cas de diarrhée?
[]Non []Oui, Où:_____

Si NON, passer à l'article 8.
Si OUI:

7.2 Quels sont les problèmes liés au transfert des enfants? (Cocher toutes les réponses mentionnées ou écrire des commentaires)

a. L'établissement ne dispose pas de véhicule pour le transfert []
b. Trop loin, le transfert prend trop de temps []
c. Les établissements auxquels les malades seraient transférés ne sont pas adéquats []
d. Les mères ou accompagnant ne veulent pas que leurs enfants soient hospitalisés []
e. Autre problème:_____
f. Autre problème:_____

EVALUATION GENERALE: OBSERVATIONS ET PROBLEMES
(SYNTHESE A REMPLIR EN EQUIPE AVANT DE QUITTER L'ETABLISSEMENT)
[Pour chaque question ci-dessous, ajoutez des commentaires afin d'aider à éclairci les besoins de l'établissement de santé et les occasions ou solutions disponibles pour améliorer la prise en charge des cas de diarrhée. Basez les réponses sur les observations de l'équipe et ses discussions avec le personnel clinique de l'établissement de santé.]

8. Selon le personnel, quels soutiens ou quelles activités sont nécessaires pour améliorer la prise en charge des cas?

   a. Supervision: _____

   b. Formation (Type, contenu): _____

   c. Fournitures, équipements: _____

   d. Autres: _____

9. Décrivez les problèmes concernant le flux des malades, le cas échéant, et la façon dont ils affectent la prise en charge des cas.

   _____
   _____

10. Dans quelle mesure les responsabilités et les devoirs des membres du personnel sont-ils clairs (p. ex., qui est chargé de conseiller les mères et accompagnant)? Comment les responsabilités sont-elles distribuées entre les tâches cliniques et administratives?

   _____
   _____
   _____

11. Décrivez comment la configuration matérielle et l'organisation de l'établissement de santé facilite ou ne facilite pas une prise en charge efficace des cas. (p. ex., présence d'un coin TRO, propreté, espace, organisation du personnel et des patients)?

   _____
   _____
   _____

12. Quels problèmes se posent lors de la communication d'informations aux mères ou aux accompagnant en face à face (p. ex., pas assez de temps, barrières linguistiques, responsabilité non attribuée spécifiquement à une personne, formation insuffisante du personnel)?

   _____
   _____
   _____

13. Selon le personnel et les enquêteurs, quels sont les obstacles auxquels se heurtent les mères ou accompagnant pour assurer une prise en charge correcte des cas? (Cocher tous les obstacles mentionnés)

a. Les mères ou accompagnant ne croient pas en la TRO [ ]
b. Les mères ou accompagnant ne veulent pas donner de médicaments [ ]
c. Les mères ou accompagnant n'amènent pas leurs enfants assez tôt. [ ]
d. Les mères ou accompagnant n'ont pas assez d'argent pour acheter les antibiotiques [ ]
e. Les familles habitent trop loin [ ]
f. Les mères ou accompagnant préfèrent consulter des médecins privés. [ ]
g. Autre obstacle: _____
h. Autre obstacle: _____

14. Veuillez ajouter d'autres commentaires, problèmes ou observations sur cet établissement de santé et la prise en charge des cas qui y est effectué:

_____
_____
_____
_____

ENQUETEURS: AVANT DE QUITTER L'ETABLISSEMENT DE SANTE, COMMUNIQUEZ VOS CONCLUSIONS AU RESPONSABLE.

Code ___ ___ ___ ___

Questionnaire 5: EXAMEN DES DOSSIERS CLINIQUES [ ] Patient hospitalisé [ ] Patient ambulatoire **5**

Numéro du centre de santé __ __ __ __ Type_____ District_____ Date __/__/__ Numéro de l'enquêteur ___ ___

1. Dossier aléatoire	2. Poids inscrit		3. Diagnostic (spécifier)	4. État de la déshydratation				5. Traitement Décrire le volume de SRO, IV commandé ; lister les médicaments				6. Antibiotique approprié		
	Oui	Non		A	B	C	NI	SRO	IV	Médicaments	Transféré	Oui	Non	PI
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
Total			xxxxxxxxxxxxxxxxxxxxxxx					xxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	xxxxxxxxxx			

Diagnostic
Diarrhée
Dysenterie avec sang (incl. sang dans selles)
Diarrhée persistante
Choléra
Giardiase/amoebiase

État de la déshydratation
A = Pas de symptômes
B = Certains
C = Grave
NI = Non indiqué

PI = Pas assez d'informations

7/94

APPENDIX 4

Annexe 4

Les 3 indicateurs clés du programme LMD sur la prise en charge correcte des enfants diarrhéiques par catégorie d'établissement de santé Sénégal, septembre 1994

Indicateurs clés du programme LMD	C.S. / Hôpitaux	Postes de santé	Différence significative
Cas de diarrhée correctement évalués	33% (33/99)	38% (47/125)	NON
Cas de diarrhée correctement réhydratés *	19% (4/21)	25% (3/12)	NON
Cas de diarrhée correctement conseillés **	9% (7/78)	18% (20/113)	NON

* : Cas du plan B ou C seulement
** : Cas du plan A seulement

Il n'y a pas de différence significative de prise en charge des enfants diarrhéiques entre les enfants vus dans les centres de santé/hôpitaux et ceux vus dans les postes de santé.

APPENDIX 5

République du Sénègal N°_____/

Ministère de la Santé Publique et
de l'Action Sociale

DPS/SANAS

FICHE INDIVUDUELLE D'EVALUATION ET DE TRAITEMENT

1- Identification de l'enfant
Nom de l'enfant_____
Age en mois_____ /Poids_____/ Sexe_____/
Etat nutritionnel: Bon__/Malnut moderée__/ Malnut grave___/

2- **Evaluation de la déshydratation**
(souligner les signes et symptômes)

	PLAN A	PLAN B	PLAN C
1-OBSERVER: Etat génèral	Normal, eveillé	*Agité,irritable	*lethargique ou inconscient, Apath*
YEUX	Normaux	Enfoncés	Tres enfoncés
LARMES	Presentes	Absentes	Absentes
BOUCHE ET LANGUE	Humides	Séches	Trés séches
SOIF	Pas assoifé	*Assoifé,boit avec avidité	*Boit à peine incapable de boire
2- PALPER : PLI CUTANE	S'efface rapidement	*s'efface lentement	*S'efface tres lentement
3- CONCLURE:	le malade n'a pas de signe de DESHYDRATATION	Si le malade a 2 de ces signes dont au moins un signe marqué avec un * en conclure qu'il a des signes evidents de DESHYDRATATION	Si le malade a au moins 2 de ces signes dont un signe marqué avec un* en conclure qu'il a une DESHYDRATATION SEVERE
4- TRAITER:	Appliquer le Plan de traitement A	Appliquer le Plan de traitement B	Appliquer le Plan de traitement C

3 - Problémes associés: Dysenterie____/Malnutrition____/
Diarrhée Persistante____/ Fiévre___/

4 - Traitement : Plan de traitement choisi A B C
Si plan B, Quantité à administrer au cours des premières 4-6 heures
_____/
Si plan C, quantité de solution à administrer:
- au cours des premières 30 mn _____/
- au cours des heures suivantes _____/

Médicaments prescrits et doses_____
_____

TRAITEMENT DE LA DESHYDRATATION

ETAT CLINIQUE	HEURES APRES DEBUT REHYDRATATION			
	02 Heures	04 Heures	06 Heures	24 Heures
ETAT GENERAL				
Yeux				
Larmes				
Bouche et Langue				
Soif				
Pli cutané				
ETAT CLINIQUE	HEURES APRES ADMISSION			
	0 à 2	2 à 4	4 à 6	6 à 24
Nombre de selles				
Episodes de vomissement				
Volume SRO consommé				
Volume autres liquides absorbés				
Volume solution administrée en IV				
Aliments consommés (lait maternel compris)				
Médicaments absorbés				

Education des mères : Préparation SRO ou SSS
Démonstration préparation SRO ou SSS
Administration des solutions (SRO SSS) la SRO
Education nutritionnelle
Prévention de la diarrhée
Signes de gravité

APPENDIX 6

Annexe 6

Liste des enquêteurs et superviseurs ayant participé à l'enquête sur la prise en charge des cas de diarrhée, Sénégal, septembre 1994

Superviseurs :

Léonard	COLY	SANAS, Dakar
Bernard	DIOP	Consultant (CHU/UCAD, Dakar)
Serge	MANONCOURT	Consultant (EPICENTRE, Paris)
Abdoulaye	SAMB	SANAS, Dakar

Enquêteurs :

Gérard	DIONE	BRAN, Fatick
Atab	MANE	SSP, Bignona
Lamine	MANGANE	SSP, Sokone
Bassirou	NDIAYE	SSP, Fatick
Lamine	NDIAYE	BRAN, Louga
Seynabou	NDIAYE	BRAN, Ziguinchor
Mbaye	SALL	EDS, Kaolack
Malamine	SARR	BRAN, Kaolack
Abdou	SENE	SSP, Ziguinchor
Momath	SOCE	SSP, Louga
Saboye	DIAGNE	EDS, Kaolack
Ibrahima	TOURE	SSP/LMD, Kebemer

APPENDIX 7

Annexe 7

Liste des participants à la présentation des résultats préliminaires, Dakar, 30 septembre 1994

MSAS

Mme Maty Cissé	UGP/DSP
Dr Amadou Mbaye	Médecin chef du SANAS
Dr Tharcisse	SANAS
Mme Ndiaye	SANAS
Mr Léonard Coly	SANAS
Mr Mamadou Diouf	SANAS

OMS

Dr Loco Lazare	Conseiller régional IRA, Brazzaville
Dr Musindé Sangwa	Programme IRA/LMD, Abidjan
Mme Yatta Ba	Programme Femme Développement Sanitaire, Dakar

USAID

Mme Linda Lankenau	HPNO
Mr Chris Barrett	HPNO

MSH

Dr William Emmet	Chef de projet
Mme P. Chaponnière	Planning
Mr Robert de Wolfe	IEC
Mr Glen Black	

WELLSTART

Mme Krasovec Dwight	Consultant AME
Mr Duc Cochran	Consultant AME

AFRICARE

Mr Derosena	Représentant Sénégal

BASICS

Dr Adama Koné	Représentant régional
Mr Mamadou Sène	Représentant Sénégal

CHU / UCAD-DAKAR

Dr Bernard Diop	Maître-Assistant

TULANE / MOREHOUSE

Dr Scott Mckeown

APPENDIX 8

Annexe 8

Liste des documents consultés

1) OMS. Manuel d'enquête auprès des établissements de santé; Prise en charge des cas de diarrhée. Genève: Organisation Mondiale de la Santé, Programme de lutte contre les maladies diarrhéiques, juillet 1994.

2) République du Sénégal. Plan d'action 1990-1995, Programme national de lutte contre les maladies diarrhéiques. Dakar: Ministère de la Santé Publique, Direction de la Santé Publique, SANAS, août 1990.

3) Coulibaly, M. et Diop, B. Etude de la prise en charge des cas de diarrhée dans les structures de santé. Dakar: Ministère de la Santé/SANAS/MSH-Projet PRITECH, février 1998.

4) Kelly, P. BASICS Trip Report - Senegal. Dakar: BASICS-SENEGAL, July 1994.

5) République du Sénégal. Recensement Général de la Population et de l'Habitat de 1988. Dakar: MEPF/Direction de la Prévision et de la Statistique, septembre 1992.

6) République du Sénégal. Enquête Démographique et de Santé au Sénégal, EDS II (1992/93). Dakar: MEPF/Direction de la Prévision et de la Statistique/Division des Statistiques Démographiques/Macro International Inc., avril 1994.